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ABSTRACT

This document contains 175 abstracts of books, government publications, and newspaper and journal articles published in India from January to March 1970 arranged under the following headings: academic achievement, administration and organization, adult education, brain drain, courses of study (higher education), curriculum, economics of education, general education, educational psychology, educational research, educational sociology, elementary education, examination and evaluation, extra-curricular activities, guidance and counselling, health care, higher education, instructional material and aids, literacy, moral education, physical education, policy and planning, reading, rural education, science education, secondary education, special education, standards of education, statistics, student strikes, student problems, student selection, teacher education, teachers, teaching methods, tests and measurements, vocational and technical education, and workers' education. In addition a special section contains 27 abstracts dealing with wastage and stagnation in the Indian school system. [Not available in hard copy due to marginal legibility of original document.] (FWB)

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(Abstract Nos. 1 - 175)

Contains a Special Section

Wastage and Stagnation

(Abstract Nos. A1 - A27)

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Special Section:
Wastage and Stagnation A1-A27

ACADEMIC ACHIEVEMENT

1 BALASUBRAMANIAN P S, VISVESVARAN H: Comparative study of the achivements in English of students studying in standard VIII in high schools and higher elementary schools. Journal of Educational Research and Extension 1970, 6(3), 97-107 12 ref.

The study was conducted on a sample of 194 boys and 156 girls from 15 high schools and 7 higher elementary schools. It was also planned to study a few school factors which were likely to be the causes of the difference in the performance of the two groups. An achievement test in English, a personal data sheet to be filled by the students, a three point scale for teachers' assessment of certain pupil traits and a questionnaire to the teachers to find out the various factors that are likely to be the causes of difference in the performance of the two groups, all constructed by the investigator were used. Some of the significant findings are: 1) the difference in achievement in English of the students in high schools and in higher elementary schools is significant at 5% level; 2) the difference is highly significant in the case of rural boys; 3) students in private schools are at a higher level of achievement than the students in schools under public management; 4) students in higher elementary schools do not attain the same level of achievement as those in high schools, both under public management, particularly in rural area; 5) many factors like intelligence, attention in the classroom, interest in studies, industry, health, and the ability to speak English have direct relationship with pupils' achievement; 6) some of the teachers have reported that the handbooks do not explain clearly the teaching items; certain teaching items are not clear to them; 7) teachers in higher elementary schools have reported that they have not undergone any type of refresher course; 8) only 8% of the teachers in high schools have undergone training in the special methods of teaching English. Certain recommendations have been made to overcome the drawbacks.

2 DEB M: Achievement in engineering college and neuroticism. Journal of Education and Psychology 1970, 27(4), 378-9. 9 ref.

Short forms of Bernreuter Personality Inventory and Eysenck's Personality Inventory which measure the Neuroticism were administered to 330 entrants of Jadavpur Engineering College in 1962. These scores were then correlated with the subjects' first annual examination result. It was concluded that none of the personality inventories used here can definitely predict whether neuroticism has any negative influence on students' achievement in the engineering college.

3 **DHALIWAL A S**: Academic achievement in relation to personality need for achievement. Educational Trends 1970, 4(4), 17-24. 18 ref.

The contribution of personality-needs, measured on Edwards Personal Preference Schedule (EPPS) scales, to academic achievement is a controversial issue. Hence the present study was prompted by the unexpected findings reported by Bhatnagar (see Indian Educational Material 1969, V. 4, No. 4, Abstract No. 460), that eleven measures of the EPPS Scales correlated significantly with school academic achievement, even when the influence of intelligence was held constant. Taking examination marks and intelligence test scores as absolute measures, the study (Bhatnagar's) appeared to have not worked out the coefficient of correlation between intelligence and achievement applying corrections for the unreliability of the tests used to take the measures of both the characteristics. In the present study the following data were collected on 205 students of IX class of 4 identical schools in Punjab : 1) Middle school examination marks were collected for four subjects and the distributions of composite scores for the four subjects weee converted into T-scores; 2) scores on General Mental Ability Test as a measure of intelligence; 3) scores on EPPS scales which were used to measure achievement motive. Indices of dependability of examination marks and predictive validity of verbal intelligence, relationship of personality with intelligence and achievement, indices of reliability of the residual variable and of errors operating in the residual variable were computed. Partial correlation of personality need with academic attainment, with intelligence held constant, was also assessed. The results confirmed that the relationship between achievement motive and school academic attainment was mainly due to the relationship of the former with verbal intelligence and that when the influence of intelligence was partialled out, this relationship paled into insignificance. It has been concluded that a) verbal intelligence tests do not seem to be the suitable tools; b) examination marks need to be made reliable to the possible extent; c) partial correlation does not seem to be the adequate and appropriate statistical technique; however its derived form which employs the entire variable representing indices of residue may perhaps prove more effective.

4 **GOKUL NATHAN P P**: Social class and educational achievement in relation to achievement motivation measured by an objective test. Indian Journal of Psychology 1970, 45(1), 67-74. 13 ref.

The Sentence Completion Test (SCT) (Mukerji, 1964), a verbalised test of achievement motivation (n-Ach) has been administered to 103 postgraduate students (40 boys, 63 girls). Data relating to their socio-economic status and their academic achievement at school leaving, intermediate and graduate stages have been collected. The inter-correlations were calculated. The study results for the whole group and then separately for boys and girls showing the relationship of n-Ach to educational achievement were in the expected direction as in the earlier Indian studies. But the relationship was non-significant between n-Ach and social class. Education and occupation of the main wage earner were inversely related to n-Ach of boys. The failure of the SCT to reproduce many of the findings typically found with projective devices creates a doubt whether the Sct is measuring the generalised need for achievement or not. A correlational study has been conducted among 29 university students who took two tests of achievement motivation, the SCT and a TAT type projective test. The negative value of coefficient of correlation between n-Ach scores from the two tests reveal that the two tests measure different things. It has been concluded that the SCT in its present form is not a valid test for measuring generalised need for achievement of university students of Assam region.

5 **KULKARNI S S, NAIDU C A S**: Mathematics achievement related to students' socio-economic and attitude variables - a pilot study. Indian Journal of Psychology 1970, 45(1), 53-66. 3 ref.

Mathematics test and a questionnaire were administered to 1681 high school students of the States of Haryana and Gujarat and of the Central schools in various States. The study has revealed the following: 1) Fathers' level of occupation rather than occupational category may influence students' achievement; 2) though it would be conceivable that parents' education influences students' achievement, the present study does not lend support to the view; 3) the following categories of students performed better in the test than others: a) those who wanted more mathematics in their course; b) those who could get books to read; c) those who did not hold the view that only a few persons can learn mathematics; d) those who did not believe in cramming; e) those who had not considered mathematics as a dry subject; f) those who had favourable opinions about their mathematics teachers; g) those who felt that mathematics study should help in their future occupations; etc;

6 OJHA J M: Training for the development of achievement motivation. Haryana Journal of Education 1970, 3(1), 17-22.

The measurement of achievement motive according to the standard 'n Ach' scoring and the 'language of motivation' should be thoroughly analysed and a system for interpreting these various achievement orientations may have to be developed keeping in view the socio-cultural structure. It has been sufficiently evidenced that the training helps in boosting the achievement motivation, better business performance, and creating good habits. Motives as 'affectively tone associative net works' can be changed and that is what is aimed to be done by teaching the 'language of achievement motivation' and various inputs. These training principles employed in school situation resulted in higher academic performance. Hence training in achievement motivation should be encouraged though the exact factor influencing the enhanced performance is not known. Further, the concept of the achievement motive should be further analysed and the individual or the group characteristics, socio-economic and cultural background found out to tailor suitable training programmes for different groups with distinct characteristics.

7 RAJALAKSHMI MURLIDHARAN, TOPA V: Need for achievement and independence training. Indian Journal of Psychology 1970, 45(1), 1-21. 13 ref.

The sample of the study consisted of 42 five-year old children, 21 boys and 21 girls, belonging to the lower-middle socio-economic strata of Delhi. The measure used for assessing achievement motive (n-Ach) in the children was Aronson's Graphic Expression test. The nature of the independence training imparted by the mothers was ascertained by interviewing the mothers and administering questionnaires to them. The significant results obtained by the study are: 1) the mothers of the 'high' n-Ach groups as a whole make fewer 'late' demands than those of 'low' n-Ach groups; in the case of the girls' samples, mothers of the 'high' n-Ach group also are found to make significantly fewer early demands thus suggesting the possibility of a curvilinear relationship between age at which demands are made and n-Ach; 2) the highly rewarded group in the sample as a whole has significantly higher mean n-Ach than the 'low' rewarded; 3) the 'high' n-Ach group as a whole receives a larger number of object rewards than the 'low' n-Ach. group for compliance with demands; 4) the 'low' n-Ach group in the boys' sample is more intensely and frequently punished than the 'high' group when restrictions are not obeyed; 5) the general trend thus indicates a relationship between independence training imparted in an early childhood and the development of n-Ach in the child.

8 RAM KUMAR V: Sex difference in self-concept and achievement. Kerala Journal of Education 1970, 2(1), 10-17, 20 ref.

The objectives of the study were : 1) to test the difference between self concept and achievement scores of boys and girls; 2) to examine the relationship between self-concept and achievement for both sexes for different levels of intelligence. The Q sort method based on Q techniques formulated by Stephenson and Thomson, Dr. Nafde's Non-verbal Test of Intelligence and the Personal Data Sheet were used on the sample comprising of 364 boys and 328 girls enrolled in the pre-degree course in seven colleges in Trivandrum district. The following observations have been made: 1) boys have higher mean values for both self-concept and achievement scores; 2) for boys, decrease in intelligence is accompanied by increase in self concept scores and decrease in achievement; for girls, decrease in intelligence is accompanied by a corresponding decrease in self-concept scores as well as in achievement; 3) there is no significant difference in self-concept and achievement scores between boys and girls for the two highest intelligence groups but not so in the case of lower intelligence groups; 4) the group of girls with highest intelligence has a self-concept mean score which is lower than that of the group of boys with lowest intelligence. It has, therefore, been concluded that the role of self-concept as a facilitating factor in achievement is different for boys and girls.

9 SINHA D: Academic achievers and non-achievers - an analysis of some factors associated with success and failure in university education. Allahabad, United Publishers, 1970. 175p. 52ref.

The study is focussed on some of the non-intellectual - motivational and personality - variables underlying success and failures of students. A detailed analysis of their personal background, study habits, intelligence, anxiety, adjustment, motivation and self-concept has been made and differentials between high and low achieving students have been highlighted. A few typical cases of successful and unsuccessful students have been presented. Teacher perception of qualities characterizing high and low achievers have been analysed. The results emphasize the importance of motivational and personality factors in the success and failures of the students and point to the need for taking these factors into cognizance in a programme of student selection and guidance.

10 **SRIVASTAVA B K**: Study of curricular difference at higher secondary level. Educational Trends 1969, 4(3), 24-35.

One thousand seven hundred and fortyfive students of class XI who passed their high school examination of Allahabad in 1965 formed the sample. The two major purposes of the study were to identify important characteristics of academic achievement of students in different areas of curricular learning and to see how intelligence and sex affect students' performance. Achievement tests in Hindi, science, history and drawing and a test of intelligence were administered to all the students. The findings of the study have been discussed in detail.

ADMINISTRATION AND ORGANIZATION

11 **GUPTA T N**: Academic and financial aspects in planning of hostel buildings. University News 1970, 8(3), 11, 14.

A study of the hostel buildings built during the last 10 years has revealed a wide variation in space allocation for various purposes. Planning of a hostel should aim at comfortable and cheerful environment for quiet individual work and opportunities for growth of proper community life. There is need to strike a balance between the level of amenities to be provided and the level of expenditure to be incurred. The various space requirements per student in a hostel depend on the following factors: 1) the distance of the hostel site from existing common room, dining, cycle parking etc; 2) capacity needed to meet with the possible increased demand in future; 3) whether non-resident students are to be attached to this hostel for facilities like dining, common room etc. A detailed analysis of functional spaces is required to increase the use-efficiency of total built-up space.

12 Internal autonomy in universities [Editorial]. Educational India 1970, 36(9), 307-9.

A review has been made of the following recommendations of a two-day seminar recently organized in Hyderabad under the joint auspices of the Hyderabad Chapter of the Indian Committee for Cultural Freedom and number of Teachers' organizations connected with Osmania University: 1) increasing the proportion of academic element in the higher governing organs of the university to ensure academic predominance in these bodies; 2) arranging departmental conferences and meetings of the teachers and strictly adopting their decisions on various departmental matters; 3) delegating more powers to principals, heads of departments and deans of faculties and appointing different persons to these offices; 4) associating an advisory body representing the teachers with the vice-chancellor; 5) making appointments to the Boards of Studies and Boards of Examiners on some agreed principles and not on the likes and dislikes of the authorities; 6) allowing no formal and direct representation of students in the university bodies like the Senate and the Academic Council for the time being. All the above recommendations excepting the first and the last have been favoured.

13 KHAN Y D: University administration. Indian Educational Review 1969, 4(2), 7-16. 6 ref.

That the defects in the existing system of university administration have been contributing considerably to the student unrest in the country has been pointed out. The following suggestions are put forward: 1) in the interest of administrative efficiency, it is desirable to limit the number of committees and sub-committees set up for various purposes; it may also be necessary to amend the existing university legislation so as to ensure that only questions of policy and strategy are referred to university bodies; 2) a well-thought out scheme of training for university administrative personnel is necessary; in this regard a coordinated approach on the parts of University Grants Commission, the Union Ministry of Education and the universities is called for; 3) public relations and publicity units set up in universities need to be strengthened and staffed by competent and trained public relations men.

14 KRISHNAMURTY S: Critical study and evaluation of educational administrative reforms introduced in A.P. [Andhra Pradesh] during 1956-66. Education and Psychology Review 1970, 10(1), 28-41.

Data for the study were gathered from documents as well as through opinion survey conducted among 1) administrative personnel of the Education Department and 2) educationists. The following major reforms were studied: 1) democratic decentralization of educational administration; 2) reorganization of district educational administration and district inspectorate; 3) bifurcation of directorate of public instruction; 4) establishment of special educational units, institutes and bureaux. The findings of the study have been given. Based on the findings, certain relevant recommendations have been made.

15 MEHTA C S: Some administrative problems of headmasters of boys secondary and higher secondary schools of Rajasthan. Rajasthan Board Journal of Education 1969, 5(4), 38-46.

Through a questionnaire study among 140 headmasters, the following problems and their reasons have been identified: 1) shortage of teachers; 2) irregularities in posting of teachers; 3) surplus strength of teachers in certain schools; 4) indiscipline among staff members; 5) un-methodical teaching; 6) lack of cooperation from teachers; 7) lack of interest in school work of those teachers who prepare for improving their academic qualifications; 8) frustration among those teachers who have acquired higher qualifications but did not get promotion; 9) interference of local politicians in the school administration; 10) frequent transfer of teachers; 11) lack of adequate sports and games funds; 12) heavy administrative work of routine nature; 13) inability to devote adequate attention to supervisory work; 14) unsatisfactory school building; 15) difficulty in writing off of the cost of unserviceable items. Appropriate remedial measures for these problems have been enumerated.

16 MEHTA P: Human relations and morale in supervision. Rajasthan Board Journal of Education 1969, 5(4), 18-23.

The principal of a school, due to the emerging trends, has to perform certain new professional functions in addition to his traditional role of controlling and disciplining In this context, the following two tasks are important: 1) well thought out efforts at the organizational level to project the professional functions and to promote them so that they become part of the general institutional expectation; 2) thorough training programmes designed to prepare school principals to take up new professional functions. The following are some of the training programmes suggested: a) training in sensitivity to human behaviour through training group technique; b) simulation of real life experience through games, exercises and role plays; c) case teaching; d) field training; e) motivation training. The institutional support, support of educational authorities, participation of teachers, boosting the morale of teachers are all the pre-requisites for the principal in the discharge of his new functions.

17 **MINA SWAMINATHAN**: Community resources in education. Lok Rajya 1970, 25(21), 11-13.

In view of the importance of the pre-school education and also in view of the fact that the State cannot be expected to support this level of education, it is suggested that the community resources should be mobilised for this purpose. Besides, the community resources could be tapped for the following purposes: 1) interested and resourceful people (especially mothers) could be utilized as part-time employees of the school; 2) the community can take up the preparation of mid-day meals for the school children; 3) the talent in the community could be utilised for recreational and extra-curricular activities of the school children as well as for school improvement; 4) the youth can get informal education by meaningful participation in the community work; etc.

18 **NIGAM D S**: Development of individual school improvement plans. Delhi, National Council of Educational Research and Training, 1969. vi, 16p.

The principles of the school improvement plan are that: 1) the existing institutional resources should be utilised; 2) every teacher should plan his individual work as well as his contribution to the group to which he might be assigned. Some of the aspects that have been discussed are: 1) discovering the creative urge of individual teachers; 2) executing the plan within the existing framework of rules etc.; 3) continuously scrutinising the development plan; 4) the plan aiming at improving the discharge of fundamental duties and responsibilities of the teachers; 5) surveying the existing resources of the school; 6) enlisting the cooperation of students, parents and the community; 7) understanding the role of external sponsor who initiates the development scheme; 8) the Inspectorates and Directorates of education building up their institutional plans on the basis of plans of individual schools; 9) understanding the roles of research, service and professional organizations.

Student Participation

19 **de SOUZA A**: Student participation in university governance, a sociological approach. Social Action 1970, 20(1), 22-34.

In the context of the large and complex academic institution of the modern type (as distinct from Newman's concept of university), the only avenue available to students for socialisation and for promoting a sense of belonging is through a variety of subcultures to manage cultural societies, sports, hostel, college discipline and the whole range of the cocurricular programme. Student participation is indispensable for the growth of these internal communities. The activities of these subcultures should be linked with the formal academic programme so that through institutional channels **students are able to** voice their views on the curriculum, discipline and even the teaching of the faculty. The two aspects of student partnership are: 1) the advisory and consultative role of students and 2) voting rights of student representatives on the decision-making committees and academic bodies. It is observed that voting rights of students on academic bodies will not accomplish anything for students' welfare and improvement of education besides making it an element in the academic power structure.

20 NAYAK P: From protest to participation. Economic and Political Weekly 1970, 5(11), 498-500.

It is suggested that student organizations in India could set themselves the task of democratisation of universities in which they are studying. In this, they may follow the example of English students. The two problems that students may face in this regard are opposition from the established authorities and finance. Funds could be raised by theatrical productions or exhibitions. The formar problem can be overcome only by a consistently responsible behaviour.

ADULT EDUCATION

21 JAGDISH SINGH: Adultliteracy - need for a new approach. Indian Journal of Adult Education 1969, 31(2), 9-11.

The increasing rate of illiteracy among different categories of people has been attributed to the absence of effective facilities like suitable reading material etc. for an average adult illiterate to acquire the skills of reading and writing, lack of financial resources, and lack of consciousness at the highest political level of the need for the eradication of illiteracy. The main suggestions are: 1) undertaking adult education programmes on a long-term basis and in a sustained manner; 2) linking adult education programmes with the professional and social likes of the groups for which they are designed, which implies that the literacy programmes should form an inseparable part of the economic development programmes; the responsibility for the eradication of illiteracy thus falls on the department providing the technical know-how.

22 KHANDWALA U S: Continuing education in universities. Educational India 1970, 36(8), 255-9. 5 ref.

The need for setting up continuing education centres within the universities which would serve as a focus, a clearinghouse and a coordinating centre for adult education work of the universities has been highlighted. The activities of the centres include: 1) conducting research on the individual as well as community needs to evolve a suitable educational programme; 2) organizing part-time courses, sandwich courses and correspondence courses for non-formal education of adults; 3) conducting lectures, follow-up programmes, radio talks, and audio-visual demonstration for the benefit of those seeking knowledge in different fields; 4) training persons to function as teachers in this field; 5) professional in-service training and re-training 6) organizing continuing education in agriculture as a part of extension work of the agricultural universities; 7) publication of adult literature; 8) imparting continuing education for women.

23 KOSHY T A: Voluntary organizations and programmes of adult education. Indian Journal of Adult Education 1969, 31(2), 3-6.

The following types of adult education programmes which may be taken up by voluntary organizations have been discussed: 1) adult literacy projects; 2) adult literacy follow-up; 3) further education programmes; 4) training of personnel in adult education; 5) research on problems of adult education and evaluation of programmes; 6) professional development of adult education; 7) promotional activities to create greater interest in adult education.

24 MEHTA M S: Leadership in adult education. Indian Journal of Adult Education 1969, 31(3), 3-4, 15-16.

The concept and purpose of adult (or continuing) education have been elaborately discussed. The two types of leadership required for conducting adult education are, one on the conceptual side and the other on the educational (in the purer sense). The first type of leaders may be (a) individuals or; b) institutions. In either case the leadership should possess a broad view and a clear understanding of the general purpose of adult education. The special role of universities in this context has been discussed. The leaders of the second type i.e. the adult educators should have as large a measure of intellectual equipment about the theme as possible and some measure of administrative ability. Creation of motivation and conceiving a broad-based operation should be the guidelines for literacy workers and their directors and supervisors. Follow-up action like establishment of village libraries and supply of reading material should be undertaken.

25 NANAVATTY M C: Social welfare organizations and adult education. Indian Journal of Adult Education 1969, 31(1), 9-11.

All programmes of social development including that of adult education require joint effort and cooperation of government and voluntary organizations. The adult education programmes should be conceived as an integral part of social aspects of national development. The prerequisites for the effective utilization of the services of social welfare organizations in adult literacy etc., are: 1) acknowledgement of the concept of social development, wherein adult education and social welfare are the twin fields of service; 2) provision of technical know-how by the State. Directorates of education, voluntary agencies, State and Central adult education associations; 3) provision of grants-in-aid by the State and Central departments of education to social welfare organizations taking to adult education as supportive services.

26 National Board of Adult Education. NIE Newsletter 1970, 5(1), 2.

The Government of India have decided to establish a National Board of Adult Education. It has been proposed that the Department of Adult Education of the National Council of Educational Research and Training will provide necessary secretariat and academic services to the Board. The functions of the Board would be: 1) to advise the Central and State governments on all matters relating to adult education; 2) to promote adult education, to draw up policies and programmes in these fields and to review their progress from time to time; 3) to ensure coordination between the different agencies, official and non-official, working in the field; 4) to promote the production of literature and other teaching materials; 5) to act as a clearinghouse of ideas, information and experience and to mobilize manpower and resources for promoting adult education; 6) to promote research, investigation and evaluation; 7) generally to advise, assist or undertake all allied activities, and programmes as will promote adult education.

BRAIN DRAIN

27 **MURTHY K K:** Genesis of brain drain. Statesman 18 March 1970, p.6, Cols. 4-6. 1100 words.

The genesis of brain drain has been briefly given and the current flight of talent to the USA has been discussed. It has been estimated that in 1969 one thousand seven hundred scientists and graduates migrated to the USA. Among the reasons adduced are: 1) attractive financial rewards and 2) job satisfaction, available abroad and 3) a sense of insecurity bred by several causes within the country. It is contended that these problems are intractable and that the flight of talent is inevitable. However, it is suggested that the country should try to retain some ties with the emigrants by adopting liberal rules to enable the emigrants to make regular remitances, own property in India and invest in Indian industry.

28 **SURI K B:** Brain drain and economic development, the Indian experience. Interdiscipline 1969, 6(4), 316-31.

The problem of brain drain from developing countries in general and India in particular has been examined. An attempt is made to identify the problem, examine its nature and to give a quantitative dimension to it. The factors that appear to give rise to the drain have been probed. The drain to the economic situation in India in terms of her manpower requirements and the obtaining patterns of utilization of available skills have been discussed. It is concluded that the flight of high talent manpower is closely linked to overseas education and training. The available evidence casts doubts on the absorptive capacity of the Indian economy and consequently on the economic significance of the drain. There is need to shift the emphasis from the plain demand supply approach to the utilization aspects of the stock of scientists. It is pointed out that the solution to the problem lies in planning higher education in order to bring it in line with the quantitative and qualitative manpower requirements of the economy, in the governmental regulation and direction of the programmes of overseas education, in removing imperfections in the employment market and in a complete reorganization of the scientific work in the various sectors of the economy.

COURSES OF STUDY (Higher Education)

29 **BARKER D H:** Practical training or industrial experience? the joint responsibility of the university and industry. Indian Chemical Engineer 1969, 11(3), 46-50.

The type of jobs which an engineer is to take up after his graduation in different industries is so variegated in nature that it is impossible on the part of the engineering institutions to produce engineers tailored to the diversified needs of the industry. It is the responsibility of the industry to train an engineering graduate for a specific narrow field for which they hire him. Practical training of a student in an industry should be recognized as a goal rather than a requirement for passing the examination. The training officers should be entrusted with the responsibility of finding places for engineering students in industries, who will hire, proportionate to their capabilities, engineering students to solve the problems of the industries either by themselves or through guidance of some senior engineers. As to laboratory courses it is suggested that the students should be made familiar with the limitations of each of the manufacturing processes, and the undue stress now laid upon the attainment of skills by students in wood-work, welding etc, should be reduced. A drastic reduction in the number of experiments, designed to illustrate specific engineering theory has also been urged. It has been suggested that the experiments should be stated as a problem, which the students will be asked to solve with the available equipment. To provide industrial experience to engineering teachers summer work programmes for middle-range teachers may be introduced with the help of industries.

30 **KRISHNASWAMY RAO S:** Education of physicians for community health work - whitherwards are we moving in India? NIHAE Bulletin 1969, 2(4), 5-12.

The gaps in the present training programmes for community health work have been discussed. The need for the following levels of training for physicians employed in community health administration have been enumerated: a) orientation for beginners in community health administration to work at primary health centre level and refresher courses periodically thereafter; b) staff college for those in middle managerial positions in health services; c) diploma level training in community health by modifying the present syllabus of diploma in public health to fit persons in district level health administration and above; d) doctoral level training (M.D.) in community health administration to become specialists in health administration and research. A committee was set up in 1967 to revise the syllabus of diploma course in public health. On the recommendation of this committee, the National Institute of Health Administration and Education (NIHAE) conducted a workshop on 'post-graduate education for community health work. The major conclusions of the workshop have been given.

31 NAIR K D, RAMACHANDRAN T: Materials science courses for engineers. Journal Institution of Engineers India 1969, 49(10), Pt CH 3, 54-7.

A science - based course on materials of engineering is recommended for the engineering students to provide them with adequate background in solid state. The need for the evolution of Materials Science Courses to suit each branch of specialization, to prepare the engineer to meet new challenges in materials and design is stressed. The successful teaching of such courses by specialists appointed in each department of engineering at a Canadian University is cited as an example.

32 NATARAJAN R: Physics for pharmacy students. Indian Journal of Pharmaceutical Education 1970, 4(1), 17-20.

The syllabus framed by All India Council of Technical Education for four-year integrated B. Pharm Degree Course, has included physics in the first two years. The syllabus prescribed for this subject has little bearing on pharmacy. Therefore, the following modification of the syllabus has been suggested. A condensed course in general physics should be introduced in the first year combining the existing syllabus for the first and the second years eliminating the unrelated portions. Biophysics is to be introduced in the second year. For the first year, general physics including mechanics, hydrostatics, heat, sound, light electricity and magnetism, and modern physics has been suggested. Physcial Biophysics, physiochemical Biophysics, Physiological Biophysics and mathematical Biophysics have been proposed for the second year.

33 ROY S K: Management education, a perspective for its evaluation. Economic and Political Weekly 1970, 5(9), M19-M22.

The three major inputs towards management development are: 1) management education and training; 2) organisational research; 3) management consultancy. It is observed that in India there has been too much stress on education and training alone. Education and training admits of a host of rather basic, inherent limitations. The implicit assumptions upon which education and training activity is predicted are pointed out. With regard to training evaluation, it is pointed out that the results of evaluation studies have not been particularly encouraging. There is need to be concerned about assessing the results of mangagement education in India. The two possibilities along which such assessment could be made are: 1) assessing the learning content; 2) assessing managerial behaviour after managers return from educational programmes to their organizational roles.

34 SHARMA S N: Master's degree course in pharmaceutical sciences. Indian Journal of Pharmaceutical Education 1970, 4(1), 13-16.

The following scheme for M. Pharm Course has been suggested. The course with a duration of two years should be open to B. Pharm degree or equivalent qualification holders. Specialization may be done in one of the following branches: pharmaceutics, pharmaceutical chemistry, pharmacology, pharmacognosy and pharmacy Administration. First year should be devoted to the teaching of theory, prescribed practical experiments and library work. In the second year, students should be engaged in research work and pass in one theory paper viz., Drug Design. Examination should be held at the end of each academic year. A theortical dissertation on a topic of research either industrially oriented or applied in nature should be submitted by each student at the end of the first year. The practical examination should be accompained by viva voce examination. In the 2nd year the candidate should present his work in a seminar open to examiners and post graduate students. Combined marks for thesis and seminar should be awarded. Students offering pharmacy administration should spend the second year in an approved industrial establishment and submit a critical report on its working in lieu of the thesis.

35 SINGH H B, HARDAS M W: Teaching of economic botany. Journal of the Post-graduate School 1969, 6(2), 225-30.

The subject matter and teaching aids for courses on economic botany being conducted at the Indian Agricultural Research Institute, Delhi, and at some of the universities in USA have been briefly surveyed and compared. A need to place emphasis on ethnobotany, agro-industries and plant introduction information and literature, and assembly at one site, of improved facilities of garden, museum and herbarium at this Institute has been brought out.

36 **SUBRAHMANYAM V P:** Spotlight on meteorological education. Hindu 24 March 1970, p.6, Cols. 4, 5, p.7, Col. 5. 1240 words.

The importance of meteorological science and the new demands that are placed on it by agriculturists, hydrologists, engineers etc. have been briefly discussed. The Training School of the India Meteorological Department at Poona provides training. Besides, the Andhra University and the Indian Institute of Science, Bangalore provide courses at the post-graduate level. It is suggested that the subject should find place in first-degree and secondary school courses and that encouragement should be extended to competent persons to write suitable textbooks for various levels. It is also pointed out that necessary measures should be adopted so as to enable research scientists in this field to meet together periodically for exchange of views.

37 **THOMAS T, BANERJEE P K:** Chemical, engineering education in India - industry's view point. Indian Chemical Engineer 1969, 11(4), 56-7.

The existing course, which is still academic in many respects should be practically oriented by allowing students to work with pilot plants, teaching them the correct ways of draughtsmanship so that they can represent their design correctly, familiarising them with the standard codes, e.g. BSI, ASME, etc. & design mannuals and making them conversant with the process control instruments. In every case students should be allowed to dismantle and reassemble the instruments they use. Extension of the existing 4 - year course by 1 year has been urged to train the students in advanced chemistry and chemical technology and for completing a project work in a factory. The student should be assigned with a specific problem, on which he will work in the factory under the guidance of factory staff and the faculty member. The project report of the student should be evaluated. Industrial experience of faculty members is also essential to keep chemical engineering education up-to-date.

CURRICULUM

38 **GUPTA R K:** Common curriculum at the school stage. Quest in Education 1970, 7(1), 29-33.

The recommendation of the conference of the Directors of Public Instruction held at Bangalore in 1969 to prepare a common curriculum for the school stage has been hailed. It has been emphasized that in the proposed move for common curriculum, the first step should be to form a national consensus on the core programme for primary education, which occupies a special place. Each State, depending on its own conditions could build up curriculum on the basis of the core programme. A re-examination of the objectives of education at the primary stage, their translation into behavioural terms and the working out of a curriculum on the basis of these behavioural terms have been suggested. The need for relating education to the future needs of the society has been stressed.

39 LULLA B P: Need for family life education in schools of India. Social Studies Teacher 1970, 6(4), 1-6.

In view of the importance of family life education, the following measures have been suggested for the reorientation of instruction in schools: 1) training teachers to relate their teaching to the problems of population explosion and large families; 2) offering a separate course entitled "family living"or "citizenship training" or "national problems"to the higher classes3) rewriting textbooks in such a manner that the modern values of family life become prominent to students. A study project being undertaken by the Faculty of Education of the M.S. University of Baroda in collaboration with the Baroda Community Development Service Centre to influence the curriculum in the direction of family life education has been described.

40 SHARMA J M: Towards a new curriculum in secondary school mathematics. Mathematics Education 1970, 4(1), Section B,9-12.

A case has been made out for the revision of the secondary school curriculum in mathematics. It is held that fundamental concepts of modern mathematics should be introduced throughout the school course. The following suggestions have been made regarding the teaching of certain areas of the curriculum: 1) placing greater emphasis on the appreciation of the structure of algebra - stressing commutation, associative and distribution properties - rather than on the acquisition of the techniques; 2) teaching inequalities at the same time as equalities; 3) giving more practice in the construction of an equation or a set of equations as the models for a problem without the insistence that the equations be solved; 4) instilling a wider conception of the function and introducing many examples of functions and relations which are not obviously mathematical; 5) giving questions involving heavy manipulation skills very sparingly.

41 MEHRA S P: Income and educational disparities. AICC Economic Review 1970, 21(13), 22-4. 1 ref.

Attempts to find out the relationship between the economic and educational development by comparing the literacy figures (taken from the Census of India 1961) and the percapita income (taken from a study by the National Council of Applied Economic Research) of 15 States. The co-efficient of correlation calculated according to Karl Pearson's formula has been found to be +.56, which is a significant positive correlation. It means that education increases as income increases and education decreases as income decreases. An analysis of the mode of financing of education in India has been made which clarifies the point that basically, differences in education stem from differences in capacities to spend money on education. Hence, the need for proper economic and educational policy; calculated allocation of grants-in-aid from the Centre to the States and the States to the local bodies have been stressed.

42 PANCHAMUKHI P R: Decision-making in education. Economic and Political Weekly 1970. 5(3-5), 219-22. 8 ref.

An attempt is made to outline some problems of investment decisions in education. It is shown how the general technique of benefit - cost analysis and rate of return are less useful for considering total education expenditures with no distinctions being made between different types of educational outlays. It is contended that these techniques should be used, only in the case of outlays which yield tangible, monetary returns. The contribution of education to earning and productivity should be measured after eliminating the influence of other factors to earnings. An attempt is made to present the relative contribution of different types of education to urban earnings with data drawn from a socio-economic survey of Bombay City. Indices of educational level for different States are presented so as to help regional allocation of funds. To help better planning and administration of educational expenditures and for reduction of wastage. indices of internal efficiency of education are presented for a number of years and a case is made out for more efficient utilization of funds. The underlying theme of the paper is that economic criteria of decision-making such as benefit-cost and rate of return need to be modified and supplemented by social considerations in the case of decision-making in education.

EDUCATION : GENERAL

43 **DIVEKAR S M:** New values in modern education. Education and Psychology Review 1970, 10(1), 23-7.

The importance of inculcating the following human values in children through education has been discussed: 1) character development; 2) democratic values - freedom, equality, democratic spirit; 3) scientific spirit and attitude; 4) national integration; 5) dignity of labour; 6) health and hygiene.

44 **GOEL B S:** Non-cooperation movement (1920-21) and education Naya Shikshak (Teacher Today) 1969, 12(2), 66-74, 7 ref.

It is observed that during the whole of the freedom struggle in India, the two powerful movements which influenced the education of the country were: 1) the Swadeshi Movement (1905) and the 2) Non-cooperation Movement (1921). The resolution of the Congress on 'Non-cooperation' had a clause which suggested the gradual withdrawal of children from schools and colleges owned, aided or controlled by government and in place of such schools and colleges the establishment of national schools and colleges. It is estimated that as a result more than 1300 national institutions were opened and they were attended by a lakh of students. The progress of the movement was marked by the rapid decline in attendance in government and government-aided institutions. The movement however failed because the national institutions could not provide the job stimulus. But the concrete result of the non-cooperation movement on the Government was some fresh thinking on the governmental educational aims and policies.

45 **INDIA. CENTRAL ADVISORY BOARD OF EDUCATION:** Proceedings of the thirty-fourth session, October 11, 12, 1968. Delhi, Manager of Publications. 1969. ii, 81p.

The Board discussed the following 3 topics: 1) implementation of the National Policy on education; 2) Fourth Five Year Plan in education; 3) implementation of the recommendations of the National Integration Council. Three committees were set up to deal with each one of the topics separately. The reports of the committees, their discussion and the resolutions adopted have been given.

46 INDIA. MINISTRY OF EDUCATION AND YOUTH SERVICES: Report, 1968-69. New Delhi, the Ministry, 1969. 187p.

The important developments during the year under review have been given under thirteen chapters of which the following chapters are of educational relevance: 1) school education and National Council of Educational Research and training; 2) higher education; 3)technical education;4)scholarships; 5)languages and book promotion; 6)physical education, games, sports, and youth welfare; 7) education in the Union territories.

47 JOHN, V.V.: Education in the Seventies. Times of India Bombay 30 January 1970, p. 10, Cols. 305, 7; 31 January 1970, p.8, Cols. 7-8. 3000 words.

It is suggested that the following measures, if taken, would transform the educational system: 1) mutual articulation among the different sectors and stages of education should be established, 2) the three-fold functions of the university - teaching, research, and public service - should be coordinated; 3) programmes of vocational training should be designed to meet the current economic exigencies; 4) educational institutions should provide all facilities for continuing education and the requirement of a university degree for government employment should be abolished except in professional, technical and highly specialised jobs; 5) in large affiliating universities, colleges should function as external examining agencies for one another; the internal examination marks should be separately shown; 6) students should be allowed to proceed at the pace of which he is capable and a certain minimum skills should be ensured in language and logic; 7)blind imitation of other countries should be replaced by original thinking in respect of eeucational practices and procedures; 8)educational decision-making should be done by competent persons.

48 KAPUR C.L.: Educated mind and the business of education. Delhi, Sterling Publishers, 1969, ii, 102p.

The book is a collection of speeches and addresses. Some of the topics inclueded are: 1) the educated mind; 2) education for democracy, citizenship and leadership; 3) student indiscipline; 4)educated women and society; 5) changing concept and techniques of education; 6) radio in education; 7) Basic education; 8) role of teachers' organizations.

49 KOTHARI D S: Education, science and national development. Bombay, Asia Publishing House, 1970. xi, 96p.

The book is based on the author's Dadabhai Nauroji Memorial lectures in 1968 at Bombay. A broad survey is made of the size and growth of education. The basic considerations in the reconstruction of education are examined and the challenges to be faced are dealt with. The medium of education and of scientific and technical terminology are discussed. The quality of education and its relevance to the needs of the community is stressed.

50 MEHTA R R: Educational take-off stage. Economic Times 20 March 1970, p.5, Cols. 3-8. 1800 words.

Improvement of educational facilities both qualitatively and quantitatively, specifying certain goals and future projections, has been termed as educational take-off. The take-off stage is, however, closely related with the educational problems which are: 1) difficulty in fulfilling the goal of education to all children of age group 6-11; 2) controversy among educationists regarding the importance of craft work in the structure of primary education; 43) problems of girls education, regional imbalances and wastage and stagnation; 4) the need to diversify and vocationalise the secondary education; 5) higher education beset with problems of overcrowding, low standards, indiscipline etc. It has been pointed out that during the first three Plans educational expenditure has been lower than what has been alloted for the purpose. Certain improvement measures, appropriate to the problems, have been suggested.

51 Stress on spiritual education in schools [news item]. Hindu 14 January 1970, p.13, Cols. 5-6. 530 words.

The forty-fourth All-India Education Conference held at Bangalore during December 1969, recommended the following: 1) moral and religious education should be given in all schools for at least two periods in a week; 2) all universities should establish oriental studies faculty; 3) importance should also be given to the study of languages like Arabic and Persian; 4) secondary schools should be reoriented towards community development; 5) adequate funds should be provided for women's education; 6) Ashram schools on the model of Gurukulas should be started; 7) universities should undertake programmes to promote adult education.

EDUCATIONAL PSYCHOLOGY

52 BHATTACHARYA S, TRIVEDI S: Study of the effect of environment on interest in Indian contexts. Manas 1969, 16(2), 73-9.

A sample of 300 undergraduate students belonging to Fine Arts, Technical, Commerce, Agriculture, Humanities and Science courses were drawn from six institutions. The subjects were administered a test battery to measure interest. The environmental data were collected in respect of father's occupation, area of residence, family tradition, parental desire and course of study. The analysis of the data gave the following results: 1) father's occupation as a variable is significant in 4 areas of interest i.e. Fine Arts, Technical, Commerce and Agriculuture; 2) area of residence as a variable is significant also in 4 areas of interest i.e. Technical, Commerce, Agriculture, and Humanities; 3) family tradition as a variable is significant in Fine Arts, Technical and Agricultural interest; 4) parental desire as a variable is significant in all areas of interest; 5) stream as a variable is significant only in Fine Arts and Commercial interest.

53 BHATTACHARYYA S: Use of interest and persistence tests for the purpose of allocation in multipurpose schools of India. Calcutta Review 1969, 1(1), 61-8.

An investigation was conducted to see whether interest and persistence assessment can serve the purpose of selection and allocation of students in multipurpose schools. Interest and persistence tests were constructed and validated by the author. Composite battery of tests was preferred to single tests. A total of 1200 children, both urban and rural, were tested. Important hypotheses tested were: 1) interests tend to be influenced by sociological areas and educational streams; 2) both interest and persistence are related to success in certain courses. Analysis of variance was carried out for finding out the significance of the differences of means between educational streams and sociological areas. It was observed that in certain cases, both areas and streams affect interest. Factor analysis revealed that a general factor of interest and persistence existed, although in the case of interest two clear-cut broad categories identifiable as literary/artistic and practical scientific were found. Regression analysis presented a picture relevant to the allocation problem. In most cases, interest variables along with persistence test had given significantly better prediction than the single interest test. The variability of the regression coefficients in various groups suggests that the test battery system adopted can provide part of the evidence needed in determining an allocation system.

54 **BORUDE R R:** Comparative study of prediction ability of written English II, some further observations. Indian Journal of Experimental Psychology 1970, 4(1), 5-7. 6 ref.

Thirty five students of whom 16 were from B.A. III year class, 11 from B.Sc. III year class and 8 from B.A. I year class, participated in the experiment. The group of subjects was asked to guess letter by letter four sentences of 50 letters each. An attempt was made to analyse the pattern of errors committed in the prediction of letters in sequence of the sentences. It was observed that the knowledge of the preceding symbols improves the performance of the subjects. It was also seen that there is a definite trend in the selection of symbols by the subjects which means there is an evidence of the knowledge of statistical dependences of the letters in a language. In the earlier study (Borude R R: comparative study of prediction ability of written English. Psychological Studies 1966 Vol. 11, PP. 52-9), it was observed that significant differences exist in the performance of a 'guessability task' of groups of subjects offering different courses of study and with different degrees of training in a language.

55 **CHAKRAVARTY A:** Meaning of apperception and its importance in education. Indian Educational Review 1969, 4(2), 119-23. 12 ref.

The nature of apperception is critically examined and its important role in education is brought out.

56 **CHOUDHARY M S:** Acquisition time and its effect on recognition score: an experimental study. Educational Trends 1970, 4(4), 29-34. 10 ref.

The following hypothesis was sought to be verified: recognition score will increase with increment in exposure time and will decrease after an optimum level. Forty male undergraduate students were divided into 5 groups, each with 8 students. Each group was subjected to different exposure time. Twenty photographs were presented to the subjects and after an interval of 10 minutes the subjects were asked to recognise them from among 40 photographs. Although the results have not confirmed the hypothesis, the general tendency appeared to be that for maximum recognition score, there should be optimum time allowed for acquisition of stimuli. It has been concluded that attentiveness towards a stimulus condition is a factor of better acquisition and retention and that attention depends on the preparedness of the individual for the task to be learned.

57 DAS K K, SARKAR D R: Study on the expectation of agriculture students from the job. Indian Journal of Applied Psychology 1970, 7(1), 6-10. 17 ref.

An investigation was conducted among 687 students of the college of Agriculture, Haringhata (West Bengal) to study their expectations from the job. Ten preference factors, viz, salary security, responsibility, advancement opportunity, nature of work, freedom, prestige, opportunity, good colleagues and good and sympathetic management, were selected for determination of expectation scale of the agriculture students. The paired comparison technique was followed. The study has shown that while both agriculture and rural students have rated salary, good colleagues, good and sympathetic management etc. in the given order of preferences, the science and urban students have rated salary, advancement opportunity, good colleagues etc. in descending order on the expectation scale.

58 GUPTA V P: Study of personality, intelligence and social adjustment level, differences between the teachers under-training in general and physical education. Journal of Educational Research and Extension 1970, 6(3), 93-6. 10 ref.

A random sample of 120 male pupil teachers (60 from each type of training institution), between 20-24 years of age and of normal health, selected from the State College of Education, Patiala and the Punjab Government College of Physical Education, Patiala, was administered a Group Test of General Mental Ability of Jalota and Tandon, the Maudsley Personality Inventory of Eysenck, and the Cowell's Social Adjustment Scale (Forms A and B), with an interval of one day. According to "t" test the differences between the means in case of extraversion scale, neutoric scales and social adjustment index were significant at .01 level, but the difference in intelligence level was significant at .05 level. The pupil teachers in physical education were significantly higher on extraversion scale, neurotic scale and social adjustment scale, and significantly lower in intelligence level, as compared to those in general education.

59 HAZARI A, THAKUR G P: Relation between manifest anxiety and intelligence. Journal of Education and Psychology 1970, 27(4), 375-7. 6 ref.

Taylor manifest anxiety scale was administered on 50 undergraduate students. On the basis of their scores on this scale ten high anxious (HA) and ten low anxious (LA) subjects were selected. Raven's progressive Matrices Test (PMT) (revised order 1956) was applied on these 50 subjects to test their intelligence. The significance of difference between the scores made by the two groups of subjects on the PMT was tested using students 't'. The scores made by the subjects under study on the anxiety scale and the progressive matrices were intercorrelated. The following conclusions were drawn: 1) the HA and LA subjects do not differ significantly in their scores on intelligence test; 2) scores on the PMT seemed to be negatively correlated with anxiety scores.

60 KAKKAR S B: Aspiration levels of children. Education and Psychology Review 1970, 10(1), 14-22. 26 ref.

Fifteen children (7-8 years of age) were observed in two sessions of a level of aspiration experiment in which four separate tasks (each task graded into five levels of difficulty) were given. The main observations are: 1) the children discriminated in the first session, among the levels of difficulty and tended to choose the easier levels of the tasks in a bid to achieve success; 2) the children's choices of the levels of difficulty and their choices after success changed in the second session in the direction which seemed to promise success; 3) they tended to be individually consistent from session to session in proportion of choices at given levels of difficulty and in their responses to successful achievement at the level chosen; 4) there was no such consistency in their responses to failure in achieving a previously set level.

61 KRISHNA K P: Some personality correlates of immediate recall in an aussage experiment. Indian Journal of Experimental Psychology 1970, 4(1), 14-15. 8 ref.

An attempt is made to compare high and low reproduction groups in terms of neuroticism and extraversion dimensions. Hindi version of Maudsley Personality Inventory (MPI) developed by Eysenck was used to measure both neuroticism and extraversion-introversion. In order to assess subjects' ability to reproduce correctly the picture - test suggested by Whipple was used. The following are the results: 1) the correlation between reproduction scores (high, low reproduction dichotomy) and neuroticism is negative and highly significant, indicating that higher reproduction bears an inverse relationship with the scores on neuroticism as measured by MPI. The correlation between high - low reproduction dichotomy and extraversion scores is positive but statistically insignificant. Although the mean of extraversion score of high reproduction group is greater than the mean of low reproduction group, the difference between groups is not significant.

62 KULSHRESTHA R N: Study of vocational interests, occupational choices, socio-economic status and intelligence of class XI students. Educational Trends 1969, 4(3), 10-16.

The sample consisted of 250 students of the age-group 14-16. Chatterji's Non-Language Preference Record, Kuppuswamy's Socio-Economic Status Scale, Jalota's Test of Intelligence and a questionnaire prepared by the author were used for the study. The main findings are: 1) the socio-economic status of the students was not related to their vocational interests; 2) educational aspirations of the students were circumscribed by the home environment; 3) the occupational choices of the students had no relationship with their fathers' education or occupations; 4) within the sample of 190 students measured, vocational interests of 55 students (29%) were congruent with their expressed occupational choices and the occupational choices of 135 students (71%) were not congruent with their vocational interests; 5) a large percentage of students with vocational interests in agriculture (39.6%) and crafts (44.8%) had no occupational choices related to their interests; 6) faculty-wise congruency was higher among the biology students (52.7%) and commerce students (16.4%) than among the arts and science students; 7) intelligence was related to congruity between vocational interests and occupational choices; 8) socio-economic status of the students had no significant relationship with the vocational interest - occupational choice congruity.

63 KUMAR K: Influence of intelligence on the Needs of school children. Indian Educational Review 1969, 4(2), 133-6.

An attempt was made to investigate how far the prominence of Needs among school children is controlled and guided by the level of their intelligence. Intelligence tests constructed by Jalota, Mehta and Bhatia as well as the Needs Rating Scale constructed and standardised by the author were administered to two samples of students. One sample consisted of 100 boys and 100 girls and the other sample consisted of 50 boys and 50 girls of supernormal (in intelligence) group and an equal number of boys and girls of subnormal group. Some of the findings are: 1) with a rise in the level of intelligence of boys and girls the presence of the related Needs decreases; 2) the Needs of Aggression, Defendence, sex and succorance are significantly more prominent among submormal boys, as compared to supernormal boys; 3) the Needs of Aggression, Defendence, Dominance, sex, Autonomy, succorance and Exhibition are significantly more prominent among subnormal girls as compared to supernormal girls; 4) the Needs of Defendence and Dominance are more prominent among the supernormal boys as compared to supernormal girls; 5) the Needs of Aggression and Defence are more prominent among the subnormal boys as compared to subnormal girls.

64 OJHA H, JHA S S: Prestige suggestion in high and low neurotic subjects. Manas 1969, 16(2), 81-5.

The N-items of Maudsley Personality Inventory were administered to a sample of 380 undergraduate Arts students (263 males, 117 females) of Bhagalpur University to determine whether or not high and low neuratic subjects differ significantly with regard to prestige suggestion. The subjects, constituted two groups, high and low, were asked to rank the slogans for the national significance initially without the names of leaders attached to them and finally with the names of leaders attached to them. The analysis of the data showed that judgements of the high neurotics were more influenced by the prestige suggestion as compared to the low neurotics. The results also indicated that women on the whole were more susceptible to the influence of prestige than men.

65 SEN A, SEN A K: Serial position curves under constant trial procedure, a test of the McCrary - Hunter hypothesis. Indian Journal of Experimental Psychology 1970, 4(1), 8-13. 13 ref.

McCrary and Hunter found that when the serial position curve is plotted, not in terms of mean number of errors made at each position, but in terms of the percentages of total errors occuring at each position, the curves were invariant with several manipulations of the verbal learning situation. An experiment was carried out within a group of 27 subnormal adults, to test the McCrary - Hunter hypothesis under constant trial procedure. The task material consisted of outline pictures of common objects. A condition x trial x subjects design was used. The experiment involved 4 trials and the errors at each serial position were expressed as a percentage of total errors to test the hypothesis. The results showed that though the curves for mean absolute errors were situated at different levels, the percentage distribution of error curves however became similar in nature, under all learning conditions (normal, meaningful distraction and meaningless distraction). The findings, therefore, confirmed that the form of relative difficulty position function is an invariant property of rote memorization.

66 SHARMA S: Anxiety among higher secondary students in relation to their sex and caste affiliations. Haryana Journal of Education 1970, 3(1), 46-9.

A random sample of 362 students of 11th class from 13 urban higher secondary schools in Haryana, Panjab, Himachal Pradesh and Chandigarh was administered the Anxiety Scale (in Hindi language) designed by

Sharma, in small groups of 15 to 20. The information about castes was obtained from the school records. The girls scored slightly higher on the Anxiety Scale than the boys and no significant differences were found in anxiety among various groups ranked according to castes. It is observed that caste is not a variable in influencing anxiety of students in urban areas. However, the teachers should combat caste prejudices among students whenever it is observed. It has been concluded that caste cannot be taken as a determiner of social class in various studies as parental education, economic status, parental occupation seem to be more important.

67 **SHARMA S: Caste affiliation and sex as sources of variation in self-acceptance of adolescents. Manas 1969, 16(2), 87-93.**

A sample of 362 students(males 199, females 163) of standard XI and belonging to the age group of 15 to 17 were randomly selected from 13 urban higher secondary schools of Punjab, Haryana, Himachal Pradesh and Union Territory of Chandigarh for the study. The Self-concept Inventory developed in Hindi by the author was administered to all the students in small groups of 15 to 20. Necessary controls were applied to overcome the various irrelevant response determiners. The students were grouped according to the following four castes: 1) Brahmins; 2) Kshatriya; 3) Vaish; 4) Scheduled/backward class. The analysis of the data showed that the girls as a whole have significantly higher self-concept than the boys, and caste affiliation is not a significant source of variation in their self-acceptance.

68 **SINGH L C: Age and sex differences in visual estimates of percieved sizes. Indian Journal of Experimental Psychology 1970, 4(1), 16-17.**

The experiment was conducted on 10 male and 10 female subjects of whom 5 boys and 5 girls were below 10 years of age and the rest above 20 years of age. The apparatus of Galton Bar was used. The task was to adjust the response distance on one side of the bar with the help of the adjuster until this distance appeared equal to the given stimulus distance. Each subject gave a total of 2100 observations for 21 stimulus distances. The method of Average error was used to study the precision of observations in the experiment. There were either over-estimations or under-estimations for all the stimulus distances of 5 cm. to 25 cm. There was a tendency for under-estimating larger distances and over-estimating small distances. This goes with the Helson's theory of adaptation level. There were significant differences between the estimations of perceived distances of male and female subjects. The age of subjects was a contributory factor to the variations in the visual estimations of perceived distances.

69 SUJANANI G R T: Student delinquency. Educational India Forum 1970, 15(1), 4-6.

The causes of student delinquency have been analysed under the following two factors: 1) predisposing factors viz a) low intelligence. b) absence of moral values, c) poor environment, d) diversity of social cultural status of students coming from middle and high classes and those from urban and rural areas, e) fast appearing social changes providing more facilities for recreation such as cinema, f) unfavourable home conditions; and 2) motivating factors viz conditions belonging to inner self of the individual. Improvement of living conditions, provision of desirable recreational opportunities; better parental control, home environment etc., have been suggested as remedies.

70 UPADHYAY S N, MUKERJEE M, SHUKLA P: Perception, effect of motivation and socio-economic status. Indian Journal of Experimental Psychology 1970, 4(1), 1-4. 6 ref.

Thirty-six students of high socio-economic status and an equal number of low socio-economic status served as subjects. Half the number from each group constituted the motivational group and the other half, control group. Thus there were four groups of 18 subjects each. The subjects were asked to identify the correct size of the 25 paise coin from among many circles. The experiment was repeated for the denominations of 50 paise and 100 paise. Toffees were given to the motivational subjects after each judgement. The following were the results: 1) in all conditions but one, the 25 paise coin was underestimated; 2) the error of over-estimation was higher for the 100 paise coin than for the 50 paise coin; 3) the trends of results were similar in motivated and control groups and also when comparison was made between lower and higher socio-economic groups; 4) the differences were not statistically significant on a two-way analysis of variance; 5) the estimates were uniformly lower in the higher socio-economic groups than the corresponding estimates of the lower socio-economic group; 6) the introduction of motivation reduced the estimation of 25 paise coin.

EDUCATIONAL RESEARCH

71 AHUJA P: Importance of action research in Indian schools. Haryana Journal of Education 1970, 3(1), 9-13.

The importance of action research by teachers has been stressed as it leads to their professional growth and development, and results in the overall improvement of school education. The following steps that may be followed in preparing an action research design have been discussed with an example, improving the Hindi pronunciation of 5th class students: 1) identification of problem area; 2) problem selection; 3) problem analysis - probable causes of the problem; 4) action hypothesis; 5) the experiment - data to be collected; 6) tools to be used; 7) action programme; 8) evaluation.

EDUCATIONAL SOCIOLOGY

72 CHOPRA S L: Socio-economic background and educational opportunity in India. Journal of Education and Psychology 1970, 27(4), 365-9. 9 ref.

Data regarding father's occupation, marks obtained in the high school examination and information about continuing studies after high school, have been gathered from 1359 Xth class boys of high schools in Lucknow district. The study has revealed that students from lower occupational groups could not continue their studies even when they had the requisite academic ability to continue college studies. On the other hand students belonging to higher occupational group continued their studies even when they had initially failed in the school leaving examinations. It is evident that for continuation of studies, socio-economic status was more relevant than academic achievement. The need for devising a system in which promising students are not prevented by economic barriers from receiving the education most suited to their ability has been stressed.

73 DEB P C: Evaluation of status factors by graduate students. Interdiscipline 1969, 6(3), 247-53.

A study was conducted among the graduate students of the Punjab Agricultural University during 1968 to highlight the attitude of the youth towards factors determining social status. The main objectives were to measure the importance of a few selected factors in the determination of status and to bring out the relationship of importance ranking with the socio-cultural background of the respondents. The findings indicate, among other things, that students give more importance to education and land ownership than to caste in acquiring social status. The importance ranking of different factors was found associated with students' background like father's education and family income, but the association was not significant with regard to rural-urban residence, father's occupation and caste.

74 JAIN S P: Religion, caste, class and parental educational aspirations in a North Indian community. Indian Educational Review 1969, 4(2), 64-72. 7 ref.

An interview schedule was administered to 236 heads of households (81 Hindus and 155 Muslims) to find out their educational aspirations for their sons. Respondents from both the religious groups were further grouped according to their castes and occupational classes. The study revealed that the factors of stratification such as religion, caste hierarchy and class affiliation influenced the educational aspirations of parents for their children. Hindus aspired for higher educational levels than Muslims. Similarly higher caste and occupational groups aspired for higher levels of education. The educational aspiration of the people as a whole was not very high because the economy was predominantly agricultural. The low level of educational aspirations of the people indicated that the pace of social mobility through education was slow.

75 MEHTA R: Western educated Hindu woman. Bombay, Asia Publishing House, 1970, viii, 216p.

The study is based on questionnaire survey followed by a depth interview of fifty western-educated elite Hindu women. A broad description is given of the cultural framework in which the traditional life of the Hindu is set. The study presents the educated Hindu women against the background of traditional caste, joint family, parental authority, rituals, customs and family patterns and examines the influence of Western education on her, in what sphere it was effective and whether it has resulted in merely superficial imitation of the West or has gone deeper and changed the traditional value system and led to an assimilation of ways and thought. The study revealed that a questionnaire alone without a follow-up interview in depth would have led to misleading conclusions.

76 **SEKHAR M C:** Sociology of education - some problems and perspectives for research in India. Indian Educational Review 1969, 4(2), 1-6. 40 ref.

Education is considered as a social institution similar to economy, social stratification, political system and the family. As an independent variable, education has its own institutional system; in so far as it is dependent upon the social structure, values and traditions and upon the economy for its sustenance, it becomes a dependent variable; as an intervening variable it mediates between social stratification and economy. This interaction of education with society and economy brings into relief the following three dilemmas of educational sociology; 1) universalized education vs. allocative constraints of economy; 2) generalised diffuse education vs specific task - oriented, skilled educational needs of the technology; 3) ascribed status vs achieved status. The following areas of research are pointed out to tackle the dilemmas: 1) the extent to which there is intra-, intergenerational mobility; 2) the strata of society in which the mobility is most pronounced; 3) the avenues that are used in the process of social mobility by the different strata; 4) the kinds of social mobility produced by various types of educational institutions; 5) whether education is a selective agent in the formation and preservation of social strata; 6) how the content of education is geared to the development of achievement motivation.

ELEMENTARY EDUCATION

77 **SONI B R:** Reconstruction of elementary education. Haryana Journal of Education 1970, 3(1), 53-9.

The teaching programmes and methods should be reconstructed in such a way as to keep pace with the cognitive possibilities of pupils and to further develop such possibilities. Since the cognitive possibilities of children for the mastery of knowledge and skill are significantly higher than what has been supposed to be, the elementary stage of instruction may be limited to four years and from the fifth year, systematic study of various subjects may be taken up. The instructional materials which at present are studied in 'I-V classes, may be reorganized and studied more deeply and at higher theoretical level in classes I-IV. The recommendations of the Education Commission should be followed regarding the subjects to be included in the curriculum. The habit of independent study should be developed. Some time should be set apart for excursions, observation, play, music and drawing.

Study of the physical and social environment and the peoples' activities should be included. In the elementary classes, correlation must be realized between all the subjects. Whereas the environmental study in I-III classes may be integrated with language, the other subjects may be related with language and work-experience.

EXAMINATION AND EVALUATION

78 BANERJEE P: Critique on examination system with special reference to question papers. Prachya Prabha 1969, 41(11), 42-7.

The following suggestions have been offered: 1) drawing out a memorandum of instructions for the guidance of examiners, paper setters and moderators; 2) instructing the paper setters to provide model answers to all questions set by them, showing therein the detailed distribution of marks; 3) making the questions objective in nature i.e. the questions should be capable of indicating in clear terms the content area, and the form of knowledge that is going to be tested; 4) relating each question to specific content area and increasing the coverage of the content area; 5) restricting the number of choices; 6) allocation of a fixed time for each section in the question paper; 7) paying due consideration to the difficulty level of each question while finalising the marking scheme; 8) giving adequate directions in the question paper; 9) including at least a few questions capable of discriminating the very best from the worst.

79 Examination reform ⁄ Editorial ⁄. Hindu 18 February 1970, p.8, Cols. 1-2. 720 words.

The following recommendations made by the Consultative Committee of Members of Parliament have been discussed: 1) the teachers should maintain records of the pupils' progress and hold oral tests at frequent intervals; at the end of the primary level, the school should conduct an examination which would, however, be set by experts for the whole district or State; 2) as for the high school examination, it should test the ability to apply knowledge rather than memory; while the examination itself might be a public one, the certificate awarded need show only the subjects in which the pupil had passed, leaving it open to him to appear later for the others. It is suggested that in addition to the secondary school diploma, the student should be given a school certificate and record and that in the colleges, semester system should be introduced.

80 GOKHALE D N: Management of examinations. Maharashtra Educational Journal 1970, 18(5), 139-151, 18(6), 181-8.

The administrative problems related to the internal examinations of secondary schools have been dealt with. A scheme of examination for standards V to XI has been presented covering all the essential aspects. Points to be taken into account during paper-setting and evaluation of answer-books have also been discussed. Other topics covered are: 1) rules for promotion to standards V to XI; 2) invigilation at the written examinations; 3) external and internal checking of the assessed answer books; 4) composition and works of the Results Committee; and 5) functions of the conductor of examinations.

81 KAKKAR S B: Effect of privacy in taking dictation tests. Indian Journal of Experimental Psychology 1970, 4(1), 20-1. 8 ref.

Ninety boys of grade 8 of age 13-14 years of high and above average socio-economic status and of IQ 100 - 115 were selected randomly. A dictation test was given to 45 students, each seated alone in a room and to the other 45 in groups of 5 or more. A 300 - word page of a ninth grade textbook was dictated at fifty words per minute. It was found that the students tested individually, wrote five words per minute faster on an average. This difference was statistically also significant. The individually tested students also made slightly fewer errors though the mean difference was not statistically significant.

82 KAUSHIK S: What price multiple choice items? Naya Shikshak (Teacher Today) 1969, 12(2), 16-19.

Some of the obvious limitations of the multiple choice type items in test papers are listed: 1) they allow the examinees 20% to 25% chances of correct guessing; 2) quite a few items are so constructed that the so called distractors provide clues to the correct answer; 3) they are not fit vehicles for problems requiring correct answers involving mathematical calculations; the distractors serve no purpose. Training of multiple choice test items is a very difficult job and their advantages are very few. Hence, short open-end questions are advocated.

83 KULKARNI **S S**: Nature and format of the test for instruction. Indian Educational Review 1969, 4(2), 103-13. 10 ref.

Tests are generally identified with examinations and are considered somewhat external to the teaching learning process itself. Various types of tests are critically examined. It is maintained that learning proceeds more effectively if evaluation is built into the teaching-learning process. Construction of learning-set tests for instructions is described and it is suggested that the test should be in three parts, first part reflecting the initial behaviour, the second part representing the transitional behaviour and the third part representing the criterion behaviour. Within a given part the items need not be presented to the students in sequential order. They should be presented in a random order. It is observed that a test designed on the learning-set model and for which item analysis data are collected by the procedure suggested by Ebel (1962) would not only be helpful in the context of programmed learning but also for other instructional materials which aim at getting empirical proof for justifying their effectiveness.

84 LINGAMURTY V: Examination reform - problems of internal assessment. Educational India 1970, 36(7), 231-3, 36(8), 265-8.

The twin objectives of evaluating knowledge and personality traits of students can be achieved by internal assessment system based on oral tests, essay and objective questions, reports on work in the library, laboratory and field, seminar discussions, periodic tests, etc. The success of internal assessment system requires: 1) giving questions which require wider understanding, reasoning and interpretation; 2) adopting varied, reliable, objective and practicable techniques of evaluation; 3) continuous evaluation of the students, personality development with the help of standardized tests; 4) abolishing the practice of private tuitions; 5) careful programming and systematic conduct of various types of examinations; 6) adopting new techniques of teaching like discussion method, asking questions which require some application or integration of information and problem solving method; 7) improving teacher-student ratio and the laboratory and accommodation facilities; 8) fixing the work load of a teacher at 14 hours per week.

EXTRA - CURRICULAR ACTIVITIES

85 **KOCHAVARA T L:** Utilising students for social work. Social Welfare 1970, 16(11), 27.

The objectives of social service in rural areas rendered by the students residing in cities are: 1) to enable students to have personal contact with rural folk; 2) to engage pupils in manual labour; 3) to train students to organize games and recreational activities for children; 4) to interest students in conducting literacy classes; 5) to cooperate with villagers in launching cleanliness; 6) to promote friendship among villagers. It has been suggested that a group consisting of male and female students, senior teachers, medical and engineering students, a social worker would be ideal for offering social service. Formation of a Youth Service Committee to supervise the activities of such a group and to conduct evaluation of the work has been favoured. When the service camp is wound up, the social worker should engage the local people in all activities and prepare them to assume responsibility for continuing the project.

86 **PANANDIKAR S:** Stray thoughts on school exhibitions. Quest in Education 1970, 7(1), 46-8.

School exhibitions can be of two types, those which exhibit the work done by the children and those which exhibit items for the children. It is pointed out that in the case of the former type, the exhibition should be a byproduct of a theme studied, or work done as a part of school activities. It would not be desirable that exhibitions of children's work should be ends in themselves. The exhibition must reflect the pupils' keen interest, knowledge and enthusiasm that have gone into it. Preparation of articles should not make heavy demands on children's time outside school hours.

GUIDANCE AND COUNSELLING

87 **CHATTERJI S, MUKERJEE M:** Comparative study of several objective methods suitable for interpreting individual's set of scores in vocational guidance. Journal of Education and Psychology 1970, 27(4), 353-64. 15 ref.

In an ideal guidance situation, the counsellor uses objective methods available for interpreting test scores as well as some subjective approaches. In guidance, two types of problems come up, depending on whether clearly defined criterion groups are available or not. The following objective methods available for interpretation of test scores have been described and their merits and demerits have been discussed: 1) profile similarity or profile matching; 2) pattern isolation; 3) discriminant function; 4) probability ratio technique; 5) method of regression equation.

HEALTH CARE

88 GODAVARI KAMALANATHAN, PREMAKUMARI S, DEVADAS R P: Nutritional evaluation of school lunch programme in two selected villages. Journal of Nutrition and Dietetics 1969, 6(4), 308-15. 16 ref.

The children who participated in the school lunch programme were compared with an equal number of non-participating children. There were four groups. The results of the study are: 1) families of the children spent 77 to 80 per cent of the income on food on per caput basis; 2) about 80 per cent of the caloric intake was from the cereals; 3) the intake of protein was satisfactory in the school lunch group in both the villages, while all the four groups were short of calories; 4) all the groups registered an increase in height and weight and there was no significant difference between the school-lunch and non-school-lunch groups; 5) the school lunch was not found to influence the attendance or performance of the children; 6) there was much scope for improvement in the organization of the school lunch in both the schools.

HIGHER EDUCATION

89 ANANTAKRISHNAN S V: Whither university education? Hindu 15 March 1970, p.8, Cols. 3-6. 2000 words.

While discussing the outcome of the meeting of the Inter-university Board at Madurai, the following suggestions have been made: 1) students should have the option to choose their medium of instruction; 2) talented students should not be bound by the common curriculum; 3) the Inter-university Board and the University Grants Commission must ensure standards and free inter-university migration of students and teachers; 4) school education should be terminal in nature and admission to college education should be selective; 5) affiliating universities should be abolished and autonomous colleges should be established; 6) suitable conditions should be created so as to reverse the trend of brain drain; 7) since modern science education is costly, central instruments and library facilities, each unit serving a number of institutions in the environment, should be established; 8) the present examination system should be scrapped.

90 ZIAUDDIN ALAVI S M: Semester system - a critical evaluation. Educational India 1970, 36(9), 293-6.

The semester system in vogue in Aligarh Muslim University has been described. The following drawbacks of the system have been highlighted: 1) the flexibility in the courses offered is very restricted because of administrative and other considerations; 2) coordination of teaching in various departments, though permitted to a limited extent is not popular among the students as they prefer courses in their own departments because of their future utility; 3) though the system helps in keeping the students busy throughout the year, it obstructs free participation of students in extra-curricular activities; 4) short semester length leads to the breaking down of the unity of the subjects; 5) ill-arranged time table results in enforced idleness for the student in-between the lecture hours. It has been pointed out that the system is not suitable to Indian conditions though it may be useful in USA because there is overspecialization and demand for general and short courses. Besides, expenditure on higher education in USA is mostly borne by private agencies and they are free to plan their courses in whatever manner they like.

INSTRUCTIONAL MATERIAL AND AIDS

91 BELT F H: Building education by television. Radio Times of India 1970, 25(1), 21-2.

The all-India television system being laid out has for it a serious intent - education. Through television the masses of India can be educated basically and trained in modern skills. The problems of the television system for education are: 1) the high cost of satellite receiving stations and the high cost of the receiving set; 2) production of T V receivers in quantity; 3) identifying suitable methods of T V teaching. The T V teaching offers a showplace for new techniques of delivery, new methods of illustrating, new psychological ways to impress the student viewer. In this regard the methods used by advertising companies to make a deep and lasting impression on the viewers can be employed.

Producers of educational programmes for T V must take advantage of special photographic and electronic techniques and equipment that let them create an unlimited variety of aural, visual and psychological effects. Such advanced precepts as subliminal comprehension and reinforcement are natural for T V teaching and can double or triple the amount of learning during one programme.

92 MATHUR V S: Audio-visual aids and the teacher. Educational India 1970, 36(7), 228-30.

The scope of audio-visual aids has been described under the following three stages: 1) the early stage when direct, purposeful experience may be acquired by the child when confronting the original; 2) the stage of contrived experiences involving the use of contrivances like models; 3) the last stages of child development when visual symbols like maps, charts and diagrams, and verbal symbols which can be anything from a work or an idea to a formula and philosophic aphorism, can be used; however the visual and verbal symbols can be used in earlier stages, provided the items used are simple and the verbal symbols are combined with other aids. Strengthening of the existing audio-visual cells and establishments of audio-visual aids pools have been suggested.

93 MATHUR V S: Production of educational literature. Teaching 1970, 42(3), 91-4.

Translation of all foreign books on a large scale in order to reduce the paucity of literature in Indian languages has been disfavoured. The undertaking of a massive programme for the translation of classics in various subjects disciplines in a coordinated way has been advocated. The emphasis on the translation of all sorts of textbooks should be reduced and teachers should be encouraged to write textbooks in the language of their competence. Nationalisation of textbooks should be so minimised as to provide students ample opportunities of collateral reading through different textbooks of the same subject. Need for providing some grants for the publication of a large number of journals in all fields for the children of all age groups has been stressed to keep children aware of the latest developments in various fields. In order to develop reading habits in children, the publication of a large number of good and attractive books is also essential.

LITERACY

94 KALE J D: Assessment of educational levels of different geographical areas. Indian Educational Review 1969, 4(2), 114-18.

The educational levels of six cities of Gujarat State have been compared. It is observed that considering percentage of literacy as a measure of educational level of a place is crude since it does not take into account different levels of education. 1) unweighted system of scaling; 2) weighted system of scaling and 3) repeated scaling method, are the three methods discussed here. The unweighted system of scaling does separate different areas more significantly;this however equates different educational levels and is thus a standardised form of percentage of literacy. The weighted system of scaling in which the length of years of schooling is taken into account, measures different areas more sensitively enabling clear differentiation of each area on the basis of the educational level of the population of that area. Yet another approach is to construct an index of education by taking into consideration at each level of education, the educational attainment of an individual in an area. It is found that this repeated scaling method gives a sharp discriminating power.

95 RUTHNASWAMY M: India's slow progress on road to full literacy. Indian Journal of Adult Education 1969, 31(3), 5-8.

The importance of literacy in economic progress and in removing the shackles of caste, superstitions, prejudice and intolerance has been highlighted. The examples of successful achievement of literacy in other countries have been shown. It is pointed out that the drop-out at the primary stage is as high as 60%. Determined action on the part of Government to eradicate illiteracy, definite allocation of funds for the promotion of adult literacy, effective use of the mass media of communication, special efforts to make women literate, redressal of the imbalances between States, successful library movement etc., have been mentioned to remove illiteracy. It has been suggested that adult illiteracy should be made functional, and primary education in the villages must be related to the environment of the people.

MORAL EDUCATION

96 **D'SOUZA R:** Case for moral education. Maharashtra Educational Journal 1970, 18(5), 136-8.

Introduction of moral education has been urged as it helps one in the realization of his own self, in finding out the meaning of life, the relationship of man to other human beings and the ultimate reality. In addition, it makes one aware of his responsibility to other human beings and evokes a sense of personal suffering in the presence of injustice and exploitation. Moral education can best be imparted in home and supplemented by school.

97 **PATHAK R R:** Character training through trekking. Rajasthan Board Journal of Education 1969, 5(4), 14-17.

Education has to give pupils opportunities for character formation. The various school situations such as class-room conditions, hostel life, team-games, clubs, associations, societies etc., it is observed, offer limited opportunities for character formation. It is described how trekking and camp life at a far away uninhabited place would afford plentiful opportunities for character formation for the participants.

PHYSICAL EDUCATION

98 **THOMAS J P:** Look at our physical education and sports programme. Vyayam 1970, February, 34-6.

The suggestions made are: 1) appointing one teacher of physical education and sports for every 250 students in a school or college; 2) keeping alteast two compulsory periods of physical education for instructional purpose within the time-table per week and 3 periods of participation after school hours; 3) giving grants for sports and games equipment; 4) providing adequate play grounds; 5) setting up definite physical standards to be achieved; 6) in-service training of physical education teachers as coaches, and giving them increased benefits on completion of such training; 7) organizing holiday recreation-cum-sports camps for outstanding sportsmen for specialization work; 8) selecting 2 or 3 schools and colleges in each district for training the talented sportsmen for competitions; 9) giving scholarships to outstanding sportsmen; 10) maintaining liaison between the All-India Council of Sports, and the Central Advisory Board of Physical Education and Recreation; 11) providing special grants to improve selected colleges of physical education.

POLICY AND PLANNING

99 AGARWAL S P: Manpower supply - concepts and methodology. Meerut, Meenakshi Prakashan, 1969, xviii, 187p.

Problems of conceptual ambiguity as witnessed in the studies made in India so far are highlighted and concrete suggestions for standardising the concepts of manpower and its supply are made. It is recommended that occupation may henceforth be adopted as the criterion for defining manpower in preference to educational standard and also
in preference to a simultaneous use of occupation and educational standard. The dynamic process of change in supply over time in a quantitative as well as a qualitative sense has been studied. Concepts of gross and net changes and of the difference between the two are explained. A new concept of gross absorbable supply during a period of time is introduced for particular applicability to a csituation where thebacklog of unemployment is considerable. It is found that the gap between manpower supply and demand is often underestimated because of an erroneous reference to net figures where estimates of gross absorbable supply ought to have been used. While emphasising, in the case of concepts, on the need for clarity, standardisation and coverage of neglected areas, the desirability of introducing newer and feasible refinements in the case of methods has been stressed. Direct and indirect are the two types under which the methods have been grouped and a systematic explanation of these methods has exploded a number of common myths and illusions. It is revealed that the manpower imbalances are partly due to errors of estimation of supply. It is suggested that a working group on each manpower category, consisting of representatives of concerned organizations be set up to work out generally acceptable bench-mark data on supply for a recent date by adopting suitable concepts and methods.

100 INSTITUTE OF APPLIED MANPOWER RESEARCH, NEW DELHI: Stock of Pharmacists in India. Delhi, the Institute, 1970, iv, 34p.

Assessment of the total stock of pharmacists available in the country is a prerequisite for the manpower planning. Data have been collected from the following sources: i) Census of India 1961; ii) Directorate General of Employment and Training, New Delhi; iii) Pharmacy Council of India. The total number of registered pharmacists available in the country at the end of 1965 was about 75000. Out of them 1900 have either a degree or diploma and about 20,000 have appropriate certificates. Nearly two-thirds of the pharmacists lack suitable educational/ professional qualifications. Thirty two per cent of them are in rural areas. Public sector establishments employed 37000 and private sector 6050 at the end of 1965. There are 171 pharmacists for every million persons in India. While in quantitative terms, there are 3 pharmacists for every 4 medical practitioners, the number of pharmacists holding a degree or diploma in the subject accounts for one for about 56 medical practitioners.

101 NANDWANI S C: Unemployment in Fourth Plan. Mainstream 1970, 8(24), 27-9.

It is estimated that atthe end of the Fourth Plan there would still be 18 million without employment. The prevailing level of unemployment is also in a way attributable to the defective system of education. The two persistent manpower problems faced by the country are the shortage of skilled personnel in the modernised sector and surplus labour in both the modernised and traditional sectors. The manpower planning must take into consideration the following three objectives: 1) realisation of the basic technological shortages and an analysis of the reasons for such shortages; 2) realisation of the surpluses, both skilled as well as unskilled in various fields; 3) fixing of the manpower planning targets based on future growth expectations. The manpower strategy evolved must take into consideration the following aspects: provision of appropriate incentives; effective implementation of the employment policy; and reappraisal of the educational system. A streamlining of the governmental machinery would be the first prerequisite of success in the strategy of manpower planning.

102 PANDIT H N: National teaching manpower for school stage education - past trends, present position, and future growth. Indian Educational Review 1969, 4(2), 17-53.

The following apsects are discussed: 1) utilization and distributional aspects of teaching manpower; 2) changes in the wage rates of teachers; 3) human capital in education industry, 1965; 4) average length of schooling and costs of production of teaching skills; 5) the methodology for projecting demand for teachers. The salient observations made are that: 1) during 1947-66, the number of teachers has increased about three and a half times as against the four-fold increase in enrolment and a two and a half times increase in the number of institutions; 2) while the salaries of teachers of all levels have been increasing during these years, the growth in the salary of primary teachers has been the fastest; 3) total number of teachers employed in school stage by the end of 1965 was 1.9 million of which women teachers constituted 22%; 4) only 16% of the teachers were with graduate and post-graduate qualifications and the rest were with Matriculation and lower qualifications; 5) from the Census of 1961, it is revealed that about one-sixth of workers with qualifications of Matric and above are absorbed in education industry; 6) a little over 26% of teachers were untrained 88% of whom were below the age of 40. The total demand for teaching manpower generated during the next 15 years (1966-1981) will be 3.4 million both for replacement and expansional requirements.

103 RAO K N: Medical education and medical manpower. Indian Journal of Medical Education 1970, 9(1), 11-15

The unequal distribution of medical manpower between the States as well as between the rural and urban areas has been pointed out. Medical personnel requirements for each State based on the 1961 Census Report have been estimated according to economic feasibility. The need for a long range planning and development of para-medical personnel at graduate level like B.Sc. Pharmacy, Medical technology and public health sanitary sciences has been stressed in order to make use of physicians' stock more efficiently. The drawbacks of the existing medical education in the country have been listed. With regard to reform in medical education in consonance with the objectives, it is suggested that the requirements of basic qualifications for admission to medical colleges, curriculum, teaching methods, and examination system of the medical courses require revision.

104 SITAPATI P: Integrating manpower planning with economic planning. Yojana 1970, 14(1-2), 45-7.

Unless economic planners succeed in integrating manpower planning as a part and parcel of economic planning, striking results will not be possible in human resources development in the future. There has to be a periodic review of the supply position and a more systematic review of the changing demands in the economy. It is worthwhile that an annual manpower and employment report of the country is prepared. It will also be necessary to have effective coordinating machinery between the States and the Centre. It is desirable to have a national manpower and employment council set up by the Planning Commission. There is need at the State level, as at the Centre, to integrate manpower and employment tasks and to make periodic reviews of the manpower. It is also desirable that the Institute of Applied Manpower Research should set up State units.

105 Working Committee Resolutions. AICC Economic Review 1970, 21(12), 34-6.

The Congress (O) Working Committee at its meeting on January 3-4, 1970, at New Delhi passed several resolutions, one of which concerned job opportunities for educated youth. "As a part of the overall problem of increasing employment opportunities, special attention needs to be paid to the vast and growing number of educated unemployed. The energies, aspirations and hopes of the students and youth coming out of the educational institutions should be given full scope for fulfilment. The Gandhinagar Session had, therefore, passed a special resolution on the need to arrest increasing unemployment among the educated youth. The Working Committee recommends that, to start with, a Central Fund of Rs.50 crores should be set up by the Union Government for providing employment to educated unemployed youth in industries, professions and varieties of jobs suitable for educated youth. The Central Fund can be operated by a "National Employment' Corporation for Educated Youth' in cooperation with the Industrial Development Corporations which are functioning in each State. The Congress Government in States should also provide some amounts for providing employment to the educated youth in addition to the resources being made available from the National Employment Corporation for Educated Youth.

READING

106 KRISHNA K P: Grade differences in reading speed. Manas 1969, 16(2), 103-8.

The Hindi version of Reading Speed Test developed by Srivastava (1966) was administered to an unselected sample of 200 male college freshmen of the University of Patna and Magadh and 200 school students (Xth and XIth special classes) to find out whether reading speed of the students studying in various classes, namely Xth special, XIth special, Pre-university and Degree I, differed significantly. In order to examine the purpose, the mean scores on Reading Speed Test of the four grades were compared by the application of 'E' test. Significant difference was found between school and college samples. No difference existed between Xth and XIth, and between Pre-university and Degree I classes.

RURAL EDUCATION

107 KRISHNAMURTY O R: System of rural higher education. Educational India 1970, 36(7), 224-7, 36(8), 263-5.

Describes the aims and objectives, and the courses and curricula offered by the Rural Institutes which were set up to create right type of educated leaders for rural reconstruction. Two new courses in agricultural economics and finances, and cooperative management have been proposed in view of the recent development of the field of agricultural finance. Some of the special features of the Rural Institutes described are: 1) provision of higher education to the rural youth in a rural setting; 2) intensive practical training; 3) training in applied research even at the undergraduate level; 4) extension work; 5) work-experience; 6) experience in community living with an opportunity for social training and training in democracy; 7) student labour programme; 8) continuous evaluation. Affiliation of at least the three Rural Institutes selected by the UGC, to the Jawaharlal Nehru University has been suggested.

SCIENCE EDUCATION

108 DESAI D M: Science and higher education in India. Education and Psychology Review 1970, 10(1), 5-9.

The following suggestions have been offered: 1) expanding the enrolment in science and mathematics, specially in post-graduate classes; 2) correcting regional imbalances in science and technology education; 3) preserving standards by adopting all the necessary measures like modernising the old and adequately equiping the new laboratories; 4) maintaining the quality of science teachers and increasing the size of their recruitment; 5) constantly modernising the curricula in science subjects.

109 OM SARASWAT: Science education and investigative project. School Science 1969, 7(3), 199-203. 9 ref.

The need for making investigatory projects as part and parcel of science education for secondary and higher secondary levels has been highlighted. Some such projects in physics, chemistry and biology have been listed. The factors to be taken into consideration for selecting the projects, the method of guidance to be adopted by the teacher and the way in which the student should report the work done have been discussed.

110 SANYAL N K: Science education in India - problems and solutions. School Science 1969, 7(3), 177-80.

Problems in science education concern the following: 1) increase in student population; 2) everexpanding scientific knowledge; 3) methodology; 4) instructional materials; 5) structure of school; 6) training of teachers; 7) physical facilities. The following national programmes for the improvement of science teaching in schools have been described: 1) curriculum projects of Department of Science Education in National Council of Educational Research and Training (NCERT); 2) study groups established in universities by the NCERT; 3) Panels for Textbooks established by the NCERT; 4) National Science Talent Search Scheme of the NCERT; 5) Regional Colleges of Education developed by the NCERT: 6) Summer Institutes for Science Teachers; 7) Crash Programme of the Third Five Year Plan; 8) Project for Reorganization and Expansion of Science Teaching throughout the School Stage (UNESCO/UNICEF assisted project).

SECONDARY EDUCATION

111 MATHUR V S: New horizons in secondary education. Haryana Journal of Education 1970, 3(1), 38-45.

The following suggestions have been made to narrow down the wide gap between cultural needs and the educational objectives: 1) identifying the gifted students and making special extra provisions at the institutional and at the locality levels in order to introduce the talented children to wider horizons of knowledge; 2) enrichment of the curriculum and providing opportunities for creative thinking and expression through judiciously selected and properly planned activities at the institutional and inter - institutional levels; 3) creating suitable conditions and situations for serious study and hardwork both at the homes and the schools, lessening the workload of the teachers, giving due academic freedom to the teachers, revising the method of supervision and administration.

112 **MUKHERJEE L:** New approach to secondary education in India. Educational India 1970, 36(7), 219-23.

The importance of secondary education and the need for a self - contained and job-oriented secondary education of a terminal type with openings to more or less independent careers have been highlighted. An educational scheme of relevance to the context has been described. According to the proposed scheme, education upto the end of the secondary stage should be divided into 3 stages, viz. 1) one year of pre-primary and four of primary; 2) three years of junior high school course (or middle school) one of which will be terminal and self contained for fundamental education and the other preparatory; 3) four years of higher secondary course, one of which will be traditional or academic type and the other job-oriented terminal type. The last year of the terminal type will be devoted to a practical course, and during that period the student will be paid regular wages as a worker and the wages will be given to him at the end of the year as an accumulated capital for starting an independent business.

SPECIAL EDUCATION

113 **AMBASHT N K:** Critical study of tribal education, with special reference to Ranchi district. Delhi, S.Chand & Co., 1970, ix, 173p.

The problems of education in the context of socio-cultural background of the main tribes of the area have been daalt with. The role of the youth dormitory, the only traditional form of education among the Oraon children, in the sociolization process has been clearly outlined. It is observed that with the opening of schools, the role of youth dormitory has diminished. Besides, by the Government agencies, the schools are run by voluntary social service organizations and the churches. The strength and weaknesses of each agency have been brought out. Also have been analysed the problems of absenteeism, stagnation and wastage. The close relationship between education and economy is shown by the uneven attendance in school in different seasons. Difficulties in the recruitment of teachers for the primary schools, delay in payment of scholarships and lack of adequate hostel facilities have been discussed. The image of the teachers in the eyes of the students and vice versa have been recorded. The percentage of education among the christian tribals is remarkably high while that of the others is very poor. Another imbalance is the disparity between education of men and women. Ending of these disparities is pleaded for.

114 **BHATNAGAR U:** Working with the physically handicapped. Teaching 1970, 42(3), 66-71.

The basic aim and objectives of special education should be to develop the potentialities of the handicapped children to the maximum. The basic needs, desires, ambitions and hopes of a handicapped child are not different from those of a normal child, and as such a handicapped child deserves a normal treatment. Most physically handicapped children should be made aware of their potentialities through counselling so that they refrain from taking a pessimistic attitude towards life. An early detection of the disabilities of a child and his initiation to the job consistent with his ability and aptitude is of paramount importance. There is need for a large number of training centres for the handicapped and for the teachers of the handicapped children.

115 CHAUDHURI S K: Educational progress in rural Bengal, a study of four villages. Economic and Political Weekly 1970, 5(6), 301-6.

An attempt is made to assess educational progress among backward castes in rural West Bengal. Four villages of South Bengal in which Scheduled Castes and Tribes predominate numerically, have been studied. The period covered is roughly that of the second and third Plans. The conclusions that emerge is that the educational condition of the backward castes did not improve during this period. At the end of the period, 65 to 86 per cent of the backward caste population was still illiterate. Among females illiteracy levels ranged between 90 and 100 per cent. School registration of children of school-going age, a crucial indicator of future trends in literacy, went up in two of the four villages studied and down in the other two. It is significant that the deterioration had taken place in those villages where the backward castes were mainly agricultural labourers or share-croppers.

116 KUNDU C. L: Backwardness and remedial instruction. Naya Shikshak (Teacher Today) 1969, 12(2), 46-58. 8 ref.

The following aspects of backwardness are discussed: 1) definition; 2) causes; 3) the pattern of development in the backward; 4) backwardness as a social and psychological problem; 5) discovery and diagnosis of backwardness; 6) intelligence tests, scholastic tests and psychometric tests in psychodiagnosis of backwardness. Some of the steps that can be adopted by school in the treatment of backwardness are to gear up school organization, modify curriculum and method of teaching and to introduce a variety of school activities suited to the backward. Treatment of reading spelling and writing disabilities can be done through remedial teaching. Individual attention has to be given and teaching lessons should be at concrete levels. Backwardness might also involve therapeutic considerations. Educational policy for the backward should aim at developing necessary skills. Education should be selective and difficulty level of lessons should be graded and phased in accordance with their limitations. Opportunities should be given to them to mix with bright children.

117 SHARMA S: Children needing special help. Rajasthan Board Journal of Education 1969, 5(4),.27-30.

The following psychogenic problems of children which interfere with their learning have been discussed: 1) autistic child; 2) anxious child; 3) depressed child; 4) deprived child. Specific measures a teacher should adopt under each circumstance have been given. A teacher with initiative, ingenuity and sympathy can help such children secure better personal and social adjustment and enable them to achieve what they are capable of.

118 SIDHAR S: How mentally retarded children can be helped. Social Welfare, 1970, 16(10), 13.

Mentally retarded can learn within their limitations in a congenial atmosphere of understanding and acceptance. The retarded need help and cooperation of individuals, public and private agencies. On completion of the training, the retarded should be provided with a place to live and work. The community should realise the problem of retardation and provide a number of services and facilities in the field of health, education and recreation. Community services should be developed. More training schools should be established and the State should allocate substancial funds for the purpose. Special classes, using effective testing techniques with the aid of school psychologists, school psychiatrists and dedicated teachers, should be provided for the retarded.

STANDARDS OF EDUCATION

119 de SOUZA E: A beginning. Economic and Political Weekly 1970, 5(7), 347.

Two seminars were organized in Bombay, one by students of various colleges and the other by the faculty of one undergraduate college, in an effort to raise the standards of education. The students felt that they should be given a challenging education that involves more of their own participation. It was suggested that attendance at lectures be made voluntary, but at tutorials compulsory, that the number of lectures be cut in favour of tutorials and assignments, that tutorials be conducted as discussion or seminar sessions and that the contribution of students to the discussions be made crucial in annual assessment. As a result of the second conference, the college in question has introduced the following measures: 1) students have been asked through questionnaires, the performance of their teachers with a view to helping teachers improve their lecture methods; 2) some of the departments have freed selected students from lectures and made college examinations optional in order to allow them to work on their own with guidance from a teacher; 3) some classes have been divided into two groups, made each group attend one lecture a week instead of two and intense personal work made a requirement for the course.

120 RAJ NARAIN: Falling educational standards - an analysis. Indian Educational Review 1969, 4(2), 54-63. 9 ref.

A study was undertaken to make a conceptual analysis of falling educational standards in present-day Indian education. The method used was an 'experience survey' : perceptions of 'falling educational standards' were collected from the press, examiners' reports, interviews with teachers and educators and correspondence with educationists in other countries. The categories of 'criterion', 'causes' and 'consequences' were found appropriate for content analysis. The analysis of the material collected revealed 16 broad areas under the category 'criteria' which affect standards. The three most important areas among these are: 1) quality of students; 2) deterioration in educational life and 3) wastage. Suggestions to improve standards in education include tackling student indiscipline, continuous assessment of student achievement, adequate training in fundamentals early in schooling, oral examination, improvement in teacher quality, starting model universities etc. Eight areas were indicated under the category 'causes' of which four important ones are: 1) expansion of education; 2) defects in educational system; 3) defects in examination system and 4) quality of educational institutions. The eight areas under 'causes' require immediate attention to improve the standards.

121 RUDOLPH L I, RUDOLPH S H: 'Standards' in democratised higher education, an analysis of the Indian experience. Economic and Political Weekly 1970, 5(3-5), 209-18. 24 ref.

The importance of disaggregating the field of education regionally and sectorally as a preliminary to generalization about declining educational standards has been stressed. The method, adopted in this paper, has yielded a differentiated view of the fate of standards. It suggests that at least statistically speaking, the expansion of higher education has not resulted in a swamping of the post-graduate sector by the first degree or pre-university levels.

On the contrary, so far as the structure of higher education is concerned, there has been some upgrading: the proportion accounted for by the B.A. level has increased at the expense of the proportion accounted for by the intermediate and PUC levels, and the postgraduate level has made a modest proportionate advance. Statistics also suggest a shift from arts to science, technology and the professions while founding of new technological and scientific institutions of high quality suggest the upgrading of leading sectors for economic development. In the social sciences, new fields have been added and old ones strengthened and there are a few outstanding men in a variety of fields who are perceived to be the peers of internationally outstanding professionals. However, it is probably true that the ordinary B.A. - B.Sc. education has suffered in the aggregate. B.A. has, for the most part, lost what elite qualities it may have had;the special attention it used to attract has been increasingly diverted to the professional and postgraduate education. First degree student-faculty ratios compare badly with those in most professional and engineering colleges. It would be safe to conclude that the very head of the academic procession had improved over its counterpart at Independence, while its much larger tail has suffered from the enormous expansion in education. But even here the statistical indexes do not permit a confident assertion of a decline as against specified earlier periods.

STATISTICS

122 PANDA B: Primary and pre-primary education in the State of West Bengal. Regional College Record 1969-70, December-January, 5-8.

There are altogether 32,101 primary and 2,571 Junior Basic Schools in the State with a total enrolment of 3,921,751 students in them, apart from a total of 444687 students studying in primary classes attached to various high and higher secondary schools. Free elementary education has so far been provided to 3,362,365 students. A highly commendable syllabus has been prepared by the West Bengal Education Directorate. However, the following measures have to be taken to improve the present situation and solve the problem of wastage and stagnation: 1) setting up new teacher training colleges; 2) enlarging the size of the inspectorate or introducing new posts of Peripatetic teacher-Inspectors who would be responsible for the academic development of the primary schools; 3) creation of a healthy parent-teacher relationship; 4) adoption of modern and useful tests and evaluation techniques; 5) delegating some responsibilities to the district authorities for preparing perspective plans for the development of primary education according to local needs. It has been suggested that possibilities of opening pre-primary schools on lines suggested by the Committee on Child Care and Kothari Commission should be explored so that by 1979-80, each primary school in the State may have one pre-primary school attached to it.

123 TRIVEDI R S: Educational development in the State of Gujarat since 1950. Quest in Education 1970, 7(1), 22-8.

The main characteristics of the educational expansion during 1950-51 to 1965-66 in the State are: 1) the percentage of enrolment in classes I-IV increased from 50.4 to 82.1 and that in VI-VII from 6.4 to 33.4; 2) the enrolment in secondary education increased from 74000 to 479000; 3) the enrolment in higher education increased from 1,51,754 to 9,20,524; 4) the post-graduate enrolment in the science faculty during 1964-65 was as low as 3.4 per cent; 5) the percentage of trained teachers increased from 35.6 to 47.6 in lower primary stage, 28.2 to 75.8 in higher primary stage and 45.9 in 1950-51 to 69.4 in 1964-65 in secondary stage. Despite the educational expansion some of the major problems to be tackled are: 1) wastage and stagnation; 2) girls education; 3) provision of diversified courses at the secondary school level; and 4) supervision to take care of the educational goals.

STUDENT INDISCIPLINE. STRIKES

124 JOHN V V: Violence on the campus, no time for sociological shrugs. Times of India 30 March 1970, p.8, Cols. 3-5. 1530 words.

It is pointed out that violence, hooliganism and 'Gheraos' on the campuses should not be treated lightly by explaining them away by sociological interpretations. The practice of appeasement of students in the form of concessions in regard to curricula and examinations is disapproved. It is suggested that any disturbance in the campus should be firmly put down taking all measures including calling in of the police, if necessary.

125 **NAIK C C:** Ways of tackling student unrest. Mail 13 February 1970, p.4, Cols. 3-6; p.6, Cols. 5. 2200 words.

It is pointed out that though the students, parents, teachers, educational administrators and the Governments, all have their roles to play with regard to curtailing student unrest, the major responsibility is that of the institutions. The following are some of the measures suggested: 1) removing the educational deficiencies through improvement of standards and introduction of semester system and internal evaluation; it should be ensured that the objectivity of internal evaluation should be verifiable to the satisfaction of the students; 2) establishing constant communication between students, teachers and administrators; 3) inculcating discipline through curricular and co-curricular programmes; 4) organizing orientation programmes to freshers; 5) provision of facilities for meaningful vocational training; 6) redressing promptly student grievances.

126 **RAO G V H:** Youth should be moulded to respect national values. Amrita Bazar Patrika, Republic Day Supplement. 26 January 1970, p.1, Cols. 3-4, p. 3 , Cols. 1-4. 2950 words.

That the young generation is growing up with out any sense of moral values and national objectives has been the reason for youth unrest and violence. The various reasons for such a state of affairs have been discussed. The following suggestions are given: 1) the older generation should set an example of examplary behaviour; 2) all measures should be taken to wipe out unemployment of the educated; 3) a national youth corps should be set up to participate in social service activities and committed to national development and the ideals of national integration, economic and social development and eradication of adult illiteracy.

127 **WARTY M S, MEHTA N:** Effect of mothers' education upon the measures used by them for disciplining children. Indian Journal of Applied Psychology 1970, 7(1), 34-6. 4 ref.

It was planned to investigate the influence of educational status of mothers upon the desirability of disciplinary measures used by them for child discipline. Through a pilot study conducted among 25 mothers of four educational levels - illiterate, primary, secondary and university, seventy five common situations of misdemeanour of children and twelve widely used methods of dealing with these situations were selected. A group of experts ranked the twelve disciplinary measures on an eleven-point scale according to their psychological desirability. 200 mothers, 50 each in each educational category were administered the questionnaire containing all the misdemeanour situations and the twelve methods of dealing with the situations. The results of the study show that education plays a significant role in determining the desirability of measures used by mothers to discipline their children. That educated mothers adopted desirable measures was evident.

STUDENT PROBLEMS

128 **PALSANE M N**: Student adjustment at the university stage. Journal of Education and Psychology 1970, 27(4), 321-32.

A questionnaire study was conducted among 915 college students (751 boys, 164 girls) to elicit information regarding the students' adjustment problems. The findings of the study were: 1) students of the faculties of Arts and Education faced the least number of problems; 2) students of the final year classes and preparatory classes faced maximum number of problems; 3) students generally faced more problems in the educational area. The most frequently mentioned problems in the following areas have been enumerated; a) educational; b) family, c) health, d) social-economic, e) personal-emotional, f) vocational etc. It is felt that every educational institution should have a student personnel services programme so as to improve the student adjustment and satisfaction.

STUDENT SELECTION

129 **JAIN I, JAIN N R, KHULLAR B M P**: Development of a test battery for selection of medical students. Indian Journal of Applied Psychology 1970, 7(1), 1-5.

The aim was to develop a set of tests which would: a) be amenable to objective scoring, b) have adequate reliability and c) have adequate predictive efficiency. A battery of seven tests was selected for experimental trials: 1) a non-verbal test of intelligence; 2) a verbal test of intelligence; 3) test of general vocabulary; 4) test of medical vocabulary; 5) general science test; 6) learning test of biology; 7) medical interest blank. The tests were tried out on 110 first-year and 50 third-year students. The predictive validity of the test battery was studied by evaluating the test results against the results of the subsequent terminal examination. It was found that the existing selection procedure, including the interview had no predictive validity; there of the six experimental tests developed showed considerable predictive efficiency. Lack of motivation during the experiment affected the efficiency of the tests. It was considered necessary to include a general science test to the proposed selection battery despite its moderate validity. Overall validity of the tests was quite satisfactory and the reliability quite high. Medical interest blank was designed as a preliminary screening tests and so it may not form a part of the main battery.

130 MALIKA K T, SOUNDARARAJA RAO T R: SSLC marks as a criterion in predicting the performance of pupils at the PUC examinations. Journal of Educational Research and Extension 1970, 6(3), 115-30.

The aim of the study was to find out whether the marks obtained in the secondary school leaving certifacte (SSLC) examination could be a criterion for predicting the performance in the pre-university (PUC) examination. The marks scored by 300 students in the SLC examination and the grades obtained by the same students in the pre-university examination were collected. The data were statistically treated. It was found that the SSLC examination marks were not a good criterion for predicting the performance in the PUC examination. In the light of the findings the need for improving the present system of admission to colleges has been stressed. In this regard, among others the following aspects have been discussed: 1) special interview, entrance examination and aptitude tests for admission to university courses; 2) the need to make the procedures of evaluation more objective; 3) records of continous evaluation.

TEACHER EDUCATION

131 BHATNAGAR R P: Functional teaching of educational psychology at graduate training colleges. Educational Trends 1970, 4(4), 25-8.

With regard to making teaching-learning of educational psychology functional, the following measures have been suggested: 1) listing the concepts, principles and skills in educational psychology which a teacher trainee should acquire; 2) enumerating the outcome of teaching these in terms of expected behavioural changes in the teacher; 3) evolving a relevant method of teaching these keeping in view the objectives; 4) preparing a manual of guidelines along with instructional materials for lecturers in educational psychology; 5) devising a set of relevant evaluating tools for measuring the expected outcomes. It is observed that the suggested reforms should be simultaneously implemented instead of piecemeal attempts.

132 KAKKAR S B: Impact of training on values. Quest in education 1970, 7(1), 3-21. 10 ref.

The influence of teacher training on students' values was estimated through the use of the Allport-Vernon Lindzey study of values test (British version) on 150 graduate teacher trainees (100 men and 50 women) of the State College of Education, Patiala, controlled for age, education, and teaching experience. The test was administered both at the commencement and at the end of the training course and the test scores on the two occasions compared to evaluate the changes possibly caused by the training course. Minimal changes except in social and economic values, were found and significant sex differences were revealed in all the six values (theoretical, economic, political, social, aesthetic) both before and after the course. (Comparison with Evans' results in a similar study on British teachers showed identity between the two findings in that: the changes in theoretical, political, aesthetic and religious values of males were insignificant, rise in social values and fall in economic values of males were significant. The comparison showed differences between the two in that: the Indian women showed changes in economic and social values but no change in the remaining four values, while the British women showed no change in any value. Differences between the value scores (both before and after training) of Indian and British teachers may be attributable to the cultural differences between the two countries.

133 KHOSLA D N: Developing attitudes among student teachers. Educational Trends 1970, 4(4), 35-8.

It is pointed out that teacher education should instil in student teachers: 1) a favourable attitude towards the profession; 2) positive attitude and interest in teachers' own work and towards students; and 3) professional ethics. Besides, the trainee should be enabled to foster in him: 1) appropriate attitude for his professional and academic growth; 2) scientific and experimental outlook in life and towards better methods; 3) deep interest for reading and writing; 4) proper attitude towards colleagues and superiors, etc. To achieve this, the following suggestions have been given: 1) giving a few lectures on the topic, involving the trainees in discussions and debates and making them write essays on the topic; 2) teacher educators setting examples for the trainees to emulate; 3) involving the trainees in all programmes of the training college and practice teaching schools; 4) removing the gap between the training college teaching and its actual practices.

134 SHARMA S: Relation of achievement in theory and practice teaching in B.Ed. examination. Quest in Education 1970, 41-5.

The sample for study consisted of 298 teacher trainees of a College of Education under the Punjab University. Only external assessment was considered as an index of achievement as it was noted that internal assessment represented highly inflated evaluation. Results showed positive but low correlation between achievement in theory subjects and skills in teaching. It was observed that different theory subjects correlated differently with marks in teaching skill. The validity of subjects like Current Problems of Indian Education and School Organisation, which do not seem to contribute much to teaching effectiveness has been questioned. The following explanations have been offered for the low positive correlation between theory subjects (taken as a whole) and skill in teaching: 1) achievement in theory subjects does not take into account the important variables like personality of the teacher, his handwriting, his expression etc. which affect teaching; 2) various theory subjects have superfluous topics with no or little relevance to develop skill in teaching; 3) the criterion of teaching success taken in this study based on marks obtained in the university examination may not be very reliable.

135 SHUKLA J K: Need for self-directed change in teacher education. Educational Trends 1969, 4(3), 1-9.

Emphasizes the need for formulating a practical strategy for self-directed change through re-consideration of curriculum pattern in line with the tasks a fresh teacher is required to perform. The suggestions are: 1) the curriculum pattern at the first degree level (B. Ed. level) should be distinct from the post graduate diploma or M.Ed. levels; 2) the content and methods curriculum should be able to provide a good balance between preparation for the present and for the future; 3) giving priority to the ability to teach in selection of teachers; 4) pre-planning of the teaching units; 5) planning effective demonstration teaching; 6) involving district education officers, school headmasters of the area and school boards in the pre-service preparation of teachers; 7) the staff of training colleges; 8) undertaking research, self-study programmes, case studies and 9) surveys of schools; 10) incorporating extension work in the normal activity of each training college.

Some of the other suggestions are: 1) giving importance to the utilization of local milieu, understanding and exploiting child's immediate cultural physical, economic and social environment for purposes of his education; 2) development of textbooks, course outlines and lesson-plans and other individual and group teaching aids by student teachers; 3) formation of study groups by the training institutions and schools in an area.

136 SURAJ BHAN: Thoughts on teacher education. Haryana Journal of Education 1970, 3(1), 3-8.

The following suggestions have been made to improve the teacher education programme: 1) formulating proper guidelines of admission criteria for entry into the training course and strictly observing them; 2) reconstructing the curricular programme on the basis of the fact that the prospective teacher needs the correct perspective of the historical, philosophical, sociological and psychological foundations of education; 3) integrating practice teaching with that of theory and making the programme of practice-teaching more comprehensive and the method of assessing the level of attainment more objective; 4) evolving some scaling formula to ensure equity and fairness to students in internal assessment; 5) raising the quality and the strength of the teaching staff in the training colleges.

TEACHERS

137 AHLUWALIA S P, KAUSHIK K B: Study of leisure time activities of secondary school teachers of Haryana. Haryana Journal of Education 1970, 3(1), 23-31.

The responses of 120 teachers to the self-administrative type of questionnaire developed by the author were analysed and the major conclusions are: 1) the teachers have leisure time at their disposal but do not utilise it properly; 2) lack of financial resources disables them from undertaking any holiday tours; 3) though most of the teachers are highly qualified, their instincts and capacities are not properly harnessed; 4) there are no proper arrangements in schools for recreation and promotion of other healthy leisure time pursuits. Some of the suggestions offered are: 1) training teachers during vacations in the methods of solving psychological problems of children and in new techniques of measurement, evaluation and casework;

2) formulating a scheme to help the teachers learn various healthy leisure time activities; 3) teachers should not be overburdened with teaching work; 4) raising the economic and social status of teachers; 5) helping teachers financially or otherwise to undertake vacational tours; 6) conducting comparative studies of leisure time activities of different types of teachers, and between teachers and other professional persons like doctors and lawyers and making empirical studies of the relationship between the pattern of utilization of leisure time and work efficiency.

138 DIXIT R C, SHARMA D D: Incorporation by students of teachers' values, a study of the student - teacher relationship. Indian Educational Review 1969, 4(2), 89-96. 4 ref.

A study was undertaken to examine the student-teacher relationship in terms of value incorporation. A scale of values developed by Bhatnagar (1963) in Hindi on the lines of Allport - Vernon - Lindzey scale of values was administered to 50 university students and 50 university teachers. Half of the sample of both students and teachers were females. The following results were obtained: 1) male teachers differed significantly from female teachers on religious values; 2) male students differed significantly from female students on theoretical, political, aesthetic and economic values; 3) female students differed significantly from their female teachers on theoretical value and social value; 4) significant differences were found between the male teachers and female students on theoretical value; 5) male students differed from the female teachers on aesthetic, economic and political values; 6) male students differed significantly from their male teachers on political value only. The data have been interpreted in terms of value incorporation. The theoretical position emphasising incorporation in which the values are accepted on the basis of their "objective capacity to enhance ego-status without forming any emotional tie" to the model, would predict a great deal of the student-teacher relationship in terms of values. Thus, the data provide partial confirmation for this theoretical position.

139 MATHEW M: Classroom climate and the authoritarian teacher. Education and Psychology Review 1970, 10(1), 9-13. 14 ref.

The authoritarian trait in teachers as manifested in their verbal and non-verbal behaviour in the classroom was observed by four investigators (M.Ed. students), each concentrating on teachers at different levels. The samples of teachers selected on a stratified random basis belonged to the primary, middle and high schools of

Trivandrum City. For scoring the running narration of the investigators, the authoritarian trait was classified under 8 major heads and each was further split into several behavioural items. The findings are: 1) the authoritarian trait is a measurable personality variable; 2) the authoritarian teachers exercised their authority in several ways restricting freedom of movement in the class, ridiculing, scolding, administering corporal punishment, suppressing all types of unusual and creative responses on the part of the pupils etc.; 3) the range and the mean were the greatest for std. IV and lowest for std. IX; the more experienced teachers scored higher with respect to all the four standards; the older teachers might have been trained in the traditional way with greater emphasis on rigid discipline and the supremacy of the teacher; 4) men teachers alone were consistently more authoritarian with regard to all the four standards.

140 **PANDIT J L:** Student teacher rating and student performance in English in Higher Secondary Board Examination. Educational Forum 1970, 15(1), 29-32. 2 ref.

The study was conducted to ascertain whether there is relationship between students' assessment of their teachers and their own achievement in English. The rating of teachers, for four English teachers' was done by 117 students of IX, X and XI classes. The rating scale was administered in 1963 and the students' marks in English in the Board examination were collected by 1966 when the IX class students finally appeared in the Board examination. On analysing the data, it was found that there was no positive significant relationship between the students' assessment of their teachers and the students' performance in English, when data were computed for separate batches of students. However, positive but low significant relationship was observed when data for the whole group of students were computed. It has therefore been shown that student evaluation of their teachers will be tenuous. It would not be desirable to promote or confirm teachers on the basis of such evaluation only.

141 **SHAMSUDDIN:** Influence of socio-economic factors on teachers' career. Christian Education 1970, 20(1), 26-33.

A questionnaire was issued to 250 secondary school teachers of Madhya Pradesh. An analysis of the replies received from 200 teachers (136 male, 64 female) revealed the following: 1) majority of the male teachers belong to lower-middle class or middle-middle class families, whereas majority of the female teachers belong to upper middle class or high class families; 2) 83% male teachers are married having 3 children on an average; on the other hand only 41% of female teachers are married; 3) majority of the teachers, both male and female, belong to the age group 25-30; 4) on the whole the teachers come from the families, where parents are not very highly educated and they are of middle occupational status; 5) 60% of the teachers have joint families with an average of 10 members in their families. In view of the above findings, the following suggestions have been made: 1) the economic status of the teachers should be raised; 2) the difference in the salary scales of upper division teachers and lecturers in higher secondary schools should be abolished; 3) teachers and their family members should be granted free medical aids; 4) education for the children of teachers should be made free; 5) conditions of work in schools should be improved; and 6) semi-government and private schools should be treated at par with the government schools in all respects.

142 SHARMA S N: Teaching staff in pharmacy educational institutions. Indian Journal of Pharmaceutical Education, 1970, 4(1), 2-4.

The difficulties in recruiting suitable teachers for diploma, first degree, and post-graduate and research courses of pharmaceutical educational institutions have been pointed out. Poor salary structure, lack of job satisfaction, absence of housing facilities are the main causes for talented to migrate to the industrial establishments, leaving teaching to the less talented graduates. To teach the subjects of pharmacy viz., Basic Science and humanities, pharmaceutical chemistry, pharmaceutics, pharmaceutical engineering, pharmacology and pharmacognosy, specialists are essential. The part-time teachers have not been found to be satisfactory by the institutions. Enhancement of emoluments, provision of incentives, facilities for teachers to undertake teaching and research, establishment of separate department of study for each subject have been suggested as remedial measures to tackle the problem.

TEACHING METHODS

143 BHATT S R: Logical operations in educatology. Haryana Journal of Education 1970, 3(1), 32-7.

Based on the assumptions, that some logical operations and standards are invariably involved in all kinds of teaching - learning process, the following tentative proposals have been given: 1) finding out the possible logical operations that are involved in teaching -

learning process and dividing and sub-dividing each of these operations so that their nature and function may be thoroughly studied; 2) conducting a study of the various possible types of episodes or topics and analysing their nature and requirements to find out the elements of logical operations involved in each of them; 3) formulating all basic categories of judgement with the help of which the pupil will acquire an adequate sense of discernment. It is suggested that the feasibility of instituting special courses in logic for teachers in the training colleges should be explored.

144 CHATURVEDI M G: Hindī tathā uske śikṣaṇ kī kuchh samasyāem (= Hindi and some problems of Hindi teaching). [Hindi]. Rajasthan Board Journal of Education 1969, 5(4), 75-9.

Hindi is taught in all schools, colleges and universities of India and in a few universities abroad. The present method of Hindi teaching is outmoded and unsatisfactory. Following modern technique of language teaching, any language can be definitely taught within a year. But the present method of Hindi teaching cannot educate one properly in Hindi even in 12 years. The need for research, analysis and description of sound system of Hindi language (whether it is taught as mother tongue or as a second language), and a study of interrelationship between the sound system of Hindi and its alphabet in Devnagri script has been stressed.

145 DANDAPANAI S: Fostering creativity. Educational India 1970, 36(8), 269-71.

Creativity may be treated as synonymous with scientific thinking, involving four major steps of preparation, incubation, illumination and revision. Freedom and spontaneity are the essential pre-requisites and the children cannot be forced to be creative. They should be given enough time for relaxation and refinement and should be encouraged to be sceptical in learning different topics. Some examples showing how a teacher can foster the creative abilities of children by adopting a creative approach to teaching have been given. Since creativity helps the students in fulfilling the important need of developing individuality. Serious consideration should be given to this aspect of teaching.

146 GOVINDARAJAN T N: Role of programmed learning in technical universities. Educational India 1970, 36(8), 260-2.

Introduction of programmed learning for humanities and social sciences in Indian Institutes of Technology (I.I.Ts) has been recommended. Some of the measures suggested for popularising programmed learning in I.I.Ts. are: 1) organization of a seminar by the NCERT for the benefit of the staff of humanities and social science; 2) helping the staff to prepare programmed textbooks in psychology to start with; 3) analysing the syllabi to select suitable portions for preparing programmed textbooks; 4) conducting an experimental project to study the effectiveness of the new method; 5) keeping the teachers in touch with researches in the field of programming and training them in the preparation of programmed text books with the help of programmers; 6) impressing upon the higher authorities of the urgency of introducing programmed learning for humanities and social sciences in I.I.Ts.

147 Map study in Social Studies. Social Studies Teacher 1970, 6(4), 16-27. 5 ref.

The various academic deficiencies with regard to map reading in social studies have been enumerated. The causes for such deficiencies at the secondary stage have also been listed. It is suggested that the teachers should plan remedial measures in order to 1) create map sense among pupils and 2) impart skills relating to map preparation. Various activities have been suggested in this regard.

148 _ PANDYA D: Some initial difficulties in learning - English /_ a foreign language_/. Progress of Education 1970, 44(8), 294-6.

When a child in India starts learning English at the age of 11 or so, a number of factors interfere with his learning. The dissimilarity of the phonetic and grammatical features of the first language, which he has already learnt, with those of English pose a big problem. The artificial class-room situation, lack of spontaneity, the consciousness that something new and strange has to be learnt, little contact with English after class hours, limited time alloted for teaching English in schools and cultural dissimilarities are other hindering factors. The ways in which these interferences can be minimised have been briefly stated.

149 PATTABHIRAM G: Reading, guiding and reference work in social studies. Social Studies Teacher 1970, 6(4), 7-10.

The main objectives of a reading programme beyond the textbooks are: 1) to acquire additional information; 2) to stimulate interest; 3) to inculcate habits, abilities and ideals; 4) to orient the student in the subject; 5) to secure related materials from other fields. The following suggestions have been offered to the social studies teachers: 1) guiding pupils in locating supplementary materials and in using the reference materials; 2) developing in pupils the skills in collateral reading - a) selecting and evaluating the material on a given problem, b) organising the material.

150 PILLAI K K: Dynamics of lesson planning in mathematics. Kerala Journal of Education 1970, 2(1), 30-3.

The suggestions for planning a lesson are: 1) pre-determining the objectives of instruction in terms of pupil-behaviour; 2) choosing the content of the lesson in accordance with the set objectives
even if it exceeds the limits of the prescribed material; 3) deciding the kind of experience that should be given to pupils in a particular lesson; the experiences of pupils are of two kinds - physical and psychological; 4) constructing proper tools of evaluation and administering them.

151 RAO C B: Studies in spelling - improvement of spelling of pupils of class VIII in English. Educational India 1970, 36(9), 301-6. 10 ref.

Twenty exercises of dictation, one per day, were given from the English Text Book used by the students in VII class. The exercises were repeated after an interval of 40 days. The initial number of mistakes and the final number of mistakes were compared and the final score in the case of each pupil was noticeably less, thus showing an improvement in spelling. A sample analysis of the mistakes observed has been given. Some of the suggestions offered to teachers are: 1) concentrating on the correct spelling of common words; 2) adopting the drilling method; 3) teaching correct pronunciation which helps in correct spelling; 4) encouraging the practice of writing words under their respective initial letters and the habit of consulting dictionary; 5) finding out the mistakes; and analysing their causes; 6) insisting on legible handwriting; 7) encouraging good visual memory for words; 8) advising pupils to write the words rather than to spell orally while learning new words.

152 RASTOGI K G: Likhit abhivyakti kī yogyatā kā nidān tathā upachār (= Deficiencies of writing expression - diognosis and remedies) / Hindi /. Rajasthan Board Journal of Education 1969, 5(4), 66-71.

Adequate practice in writing as per rule makes one a good writer. As such stress should be laid not on the volume of writing, but on the composition. Writing of letters, applications, essays, stories, etc. involves a number of skills which teachers should develop in students. Behavioural changes which the teacher should aim at bringing about in the students in respect of their written expression has been pointed out and the need for constructing a diagnostic test to ascertain the deficiencies of individual students and following it up through remedial measures have been emphasised.

153 SHARMA R P: Changing concepts and new methods of teaching of geography. Geography Teacher 1970, 5(2), 60-4. 13 ref.

Modern concept of Geography is based on comparative and scientific analysis of the facts. Regional method and classroom competition method are most practical and upto date. Regional method in which a particular region or unit is studied in detail by breaking it up to smaller units is the easiest way of enabling the pupil grasp the salient features of the Geography of an area. Classroom competition method practically started by the National Council of Educational Research and Training (NCERT) motivates the class by showing some pictures, diagrams etc. and the class is divided into groups which test each other by way of questionning. The teacher simply counts the points and gives his decisions in case of controversial answers, and after competition is over, explains the sub-unit and arranges the subject matter in the proper order.

154 SRIVASTAVA I S: Word order problems for Hindi students of English. Educational Review 1970, 76(3), 63-5.

The dissimilarity of the word order of English and Hindi create a great confusion among Hindi students in their learning of English The causes of confusion identified are: 1) complete or partial transfer of Hindi word order into English; 2) the extension of English word order into areas where it does not apply; 3) the flexibility of the Hindi word order; 4) the conflict of a new word order with the one previously established and 5) the lack of practice. Remedial measures to be adopted to wipe out the confusion have been described.

155 **THANKAMMA M A, BHAVANI K K:** Opinion of the teachers in the medical and engineering colleges of Trivandrum on the medium of instruction in colleges. Kerala Journal of Education 1970, 2(1), 22-9. 11 ref.

The sample consisted of 185 teachers in the medical and 159 teachers in the engineering colleges. Questionnaire method supplemented by interviews was used for the study. The significant findings are: 1) 23.6% medical and 27.6% engineering colleges teachers stated that they can teach through English with maximum efficiency; 2) 81.9% of teachers in the two colleges stated that a change in the medium of instruction is not necessary from the point of view of the students; 3) the respondents unanimously stated that the subject matter for their teaching is collected from books written in English; 4) a switch-over will affect adversely the mobility of teachers and students; 5) majority of the engineering and medical college teachers favoured the retention of English as medium of instruction.

156 VAIRAGADE M N: Homework problem and one experiment of a substitute scheme. Maharashtra Educational Journal 1970, 18(6), 169-76.

Since it was found that home assignments to students failed to achieve its objectives an alternative scheme was devised and was found to be effective. The students of the class were divided into several equal groups, each group containing students of outstanding, moderate and poor achievement levels. The school time was extended by one hour during which the assignments were done by the students. Each group discussed the items among themselves and care was taken that every member in the group fully understood the subject matter of the assignments. In an experiment conducted, it was revealed that this method yielded better results than giving home assignments.

157 VEDANAYAGAM E G: Place of evaluation in the teaching of Geography. Geography Teacher 1970, 5(2), 53-9. 5 ref.

The following four steps of the evaluation approach have been discussed: 1) formulation of the objectives of teaching Geography; 2) resolution of objectives into specifications or defining the objectives in terms of behavioural patterns; 3) measuring the attainment of the pupils in terms of the objectives set forth; 4) modifying the objectives, teaching techniques, framing of questions etc. in the light of the pupils' attainments, which will ultimately help in establishing the right kind of coordinated relationship between objectives, instruction and evaluation.

158 VERMA K K: Classroom logistics and effective learning. Educational Review 1970, 76(1), 1-4. 6 ref.

The need for teachers' mastery over classroom management has been stressed in view of the increasing importance attached to students' participation in the teaching-learning process. The following suggestions concerning classroom logistics have been made for an effective management of the classroom: 1) proper utilization of the resources available for classroom instruction; 2) proper attention to instructional routines like the classroom seating arrangement, supply of basal readers, check up of home work, etc.

159 VERMA S K: Contrastive studies and error analysis. Rajasthan Board Journal of Education 1969, 5(4), 3-13. 12 ref.

Contrastive linguistics of the mother tongue of the pupils and the second language they are learning, helps a teacher to understand and appreciate the difficulties of his pupils and to find out those features of the foreign language that are likely to be sources of errors due to interference. Contrastive analysis will be useful in the preparation of remedial exercises and drills designed to eliminate errors. It offers an excellent basis for preparation of instructional materials, planning of courses and development of actual classroom techniques. Contrastive analysis also enables to exploit the resources of the mother tongue to teach/learn a second language.

TESTS AND MEASUREMENTS

160 BASUMALLIK T; BHATTACHARYYA K P: Relative contribution of language and reasoning to test performance. Journal of Education and Psychology 1970, 27(4), 345-52. 7 ref.

The aim of the study was to find out the relative importance of language and reasoning in a selection test battery using two tests (one measuring language ability and the other, reasoning ability) as predictor variables, multiple correlation has been computed for each of the several tests (criterion variables) in the battery. The coefficients (R) range from .43 to .72. Consistency in the relative contributions of language and reasoning to test performance is found among two groups of subjects. A successful performance on the verbal reasoning test consistently calls for proficiency in both language and reasoning, though slightly less in the latter.

The test of general knowledge, though consistently good in language content, has the smallest reasoning component. The tests for aptitude in mathematics, which depends more on reasoning, has the smallest language component throughout. The test of graph and table reading has low loading on languages but shows inconsistency on reasoning. The non-verbal reasoning tests are high on reasoning; they are also seen to depend on language to a certain extent.

161 **BHOGLE S**: Development of a test to measure the leadership style of headmasters. Indian Educational Review 1969, 4(2), 73-83. 8 ref.

The construction of the test has been described. The test consists of thirteen typical situations usually faced by headmasters in their day-to-day work. Each of the situation is provided with three possible response styles. The response styles have been appropriately defined as democratic, autocratic and laissez faire. The headmaster is required to mark the particular response style which in his opinion is appropriate. Depending on the total scores obtained, the head master could be described as democratic, autocratic or laissez - faire. Leadership is absent in a laissez - faire type of person. It implies that power rests with others who use the headmaster as a 'front'.

162 **DESAI H G**: Construct validity of Bloom's taxonomy. Indian Educational Review 1969, 4(3), 84-8. 2 ref.

Since its publication in 1956, 'the taxonomy of educational objectives handbook I - cognitive domain' by Bloom et al, it has been extensively used in developing curricula, tests and teaching methods. An experimental design has been outlined to find out whether an empirical foundation exists for the taxonomy, that is the hypothesis that the categories of cognitive processes in the taxonomy is hierarchical and cumulative is sought to be verified. The steps involved in the experimental design are enumerated and discussed. If the hypothesis can be confirmed on the basis of the research then, there could be certain practical implications. Eleven such implications have been listed.

163 **FAROQI M A:** Shorter version of progressive Matrices Test. Indian Journal of Applied Psychology 1970, 7(1), 37-40. 6 ref.

When the intelligence test is part of a larger battery of tests, or when only a rapid estimate of intelligence is needed, a procedure that takes less time is desired. A set of 35 items were selected from the standard series PMT (1956) to yield a rapid and reliable estimate of the intellectual level of the subjects. The first three items of each of the series were included; of the remaining 9 items in each series four were selected at random, with the following restrictions: on the basis of the analysis of the scoring pattern of 507 high school pupils on the 60-item standard series, a few items on which the total number of correct responses from the above average group (score of 32+) was less than the number of correct responses from the below average group (score of 31-) were excluded. The following aspects of the shorter version were studied: 1) coefficient of correlation between the whole test and the shorter test; 2) distribution of scores on the shorter test; 3) correlation with Draw-a-man test. It was concluded that the shorter set of progressive Matrices (standard series) yields a useful estimate of the child's intelligence level in about half the time needed for the full test.

164 **KULKARNI S S, ARYA M L, NAIDU C A S:** Sequential tests of achievement in mathematics - a manual for teachers. Delhi, National Council of Educational Research and Training, 1969. 57p.

The tests cover syllabi at three levels: 1) primary, 2) middle and 3) high school. A National Advisory Committee set up for the purpose, after studying the syllabi from all the States, prepared the tables of specification for these tests. These tables indicate the topics and the educational objectives. These tests can be used for a) diagnosis, b) evaluation of instructional methods, and c) comparing students' performance with others. The sequential nature of these tests at the three levels provides a sufficiently long ladder. The procedure for administering the tests has been given. The reliability and validity have been found to be good. Percentile norms table prepared for each State and the difficulty values for topics for each State have also been given. The test kit consists of the following, besides the teachers' manual: 1) keys for the test; 2) copies of answer sheets; 3) copies of test.

165 MAJUMDAR P K: Scholastic aptitude test, structuring and standardization. Interdiscipline 1969, 6(4), 332-54.

The major purpose of the scholastic aptitude test (S A T) is to assess the level of the higher secondary school students of Calcutta schools so that their future grade achievement could be fairly predicted. The second object is to see whether the profiles obtained from the part tests would be of help in the selection of streams after the eighth grade. The SAT is essentially a grade scale yielding part scores as well as the composite score for each individual. The test is administered in groups and the test booklets are reusable. The time limit for the test is 60 minutes. SAT has 9 sub-tests; information, similarities, comprehension, analogy, mathematical reasoning, vocabulary, classification, inductive reasoning and deductive reasoning. The raw scores corrected for chance success of all the sub-tests have been given weightages and the composite score obtained from combining the weighted partscores are converted to equivalent scores for all the grade groups, VIII to XI; Confidence bands for different sub-sections of the population have been drawn. The test has been standardized on a sample of 1815 students of class VIII through class XI after two-pre-tryouts and tryouts.

166 MAJUMDAR S K: Relationship between old (1956) and new (1966) norms for 'Goodenough's Draw-A-Man' test (Pramila Pathak's Indian adaptation) on normal and retarded children. Indian Educational Review 1969, 4(2), 97-102. 6 ref.

The Draw-A-Man (DAM) Test was administered to a sample of 44 children (22 normal and 22 retarded) as per instructions given by Pramila Pathak. All the protocols were scored with the help of the old and new manuals of Pramila Pathak, thereby getting two different I. Qs for each subject. F-test of significance and correlations were performed on the collected data. The following conclusions were arrived at: 1) the new norms give significantly higher I. Qs for retarded children than the old norms; 2) the difference between the two norms was not large for normal children and was found to be statistically insignificant; 3) for retarded children, old norms were found nearer to the I. Qs on Shukla's Test, while the difference was 23 points between the new norms and the I. Qs on Shukla's Tests; 4) hence, it would be advisable to use the old norms of Pramila Pathak's DAM Test with clinic child population.

167 MUKERJEE M, CHATTERJI S: Application of the technique of analysis of variance in an experiment in the field of educational measurement. Indian Journal of Applied Psychology 1970, 7(1), 11-15. 2 ref.

The study deals with the results of the application of the method of analysis of variance to an experiment in educational measurement in which 9 objective type aptitude tests were administered to a total of 327 students of 6 different schools. The experiment is of Lindquist's "mixed design" type I. The following results were obtained: i) average performances of the school groups are significantly different from each other in respect of the abilities measured; ii) test means differ significantly from one another; iii) there is significant interaction between schools and tests from which it is evident that students in different schools do well in different tests and vice versa. The following advantages of applying the analysis of variance technique have been given: 1) the differences among the schools are simultaneously tested and hence separate comparison is not necessary; 2) it reduces the number of comparisons between the different mean values of the tests; 3) the interaction between tests and schools can be tested by this technique which cannot be done otherwise.

168 **PADMANABHAN NAYAR P**: Study of the reliability and the validity of the numerical ability subtest of the differential aptitude test. Kerala Journal of Education 1970, 2(1), 18-21. 3 ref.

The Numerical Ability (NA) form A, a sub-test of the Differential Aptitude Test (DAT) was used for the present study with the instructions translated into Malayalam. The sample consisted of 660 students (345 boys and 315 girls) studying in X class. The test was administered during June and July 1968 and the criteria for validation were the marks secured by the sample in all the six school subjects in the examination held in March 1969. The reliability coefficient was computed by the split-half method and corrected by the Spearman - Brown formula. The correct relaibility coefficient is +.89 (N=660) which justifies the use of the tool. The correlation of the NA with mathematics and general science marks are significantly higher than the correlation with the other subjects. The validity coefficients are found to be predictive. It has been revealed that the norms obtained in this study are in close agreement with the D.A.T. norms and that the NA of the D.A.T may be used to predict the ability of learning mathematics and general science in X class in the high schools of Kerala.

VOCATIONAL AND TECHNICAL EDUCATION

169 **BAJPAI J N:** Reorientation of agriculture programme at secondary level. Regional College Record 1969-70, December-January, 9-10.

The following drawbacks of the school agriculture programme have been listed: 1) programme of terminal (vocational) nature is offered to pupils in an atmosphere of purely academic nature; 2) the curriculum followed is neither college preparatory nor farm preparatory; 3) some agricultural schools have been started quite independently from academic high or higher secondary schools, but offer courses mostly for non-farm youths; 4) really good teachers of agriculture are rare; 5) no attempt has been made to educate the really potential farmer through formal school system. Mention is made of the programme initiated by the Regional College of Education at Bhubanewswar to involve the agriculture department of some high schools in trying out a vocational agriculture programme for farm youths.

170 **HARTLEY K:** Education and training in Welding. Statesman 26 March 1970, p.12, Cols. 1-8. 1710 words.

It has been found that the quality of training for the craftsman welder has not been upto the mark. The training centres and institutes do not follow the standards, in this regard, laid down by the Indian Standards Institutions (ISI). There is no provision in the country for the testing and certification of welders. No standards exist for the training and testing of welding supervisors and inspectors. Lack of training facilities is more serious with regard to welding specialist or engineer. However, the IIT, Madras has recently started a postgraduate course. With the growth of sophisticated industries, it is absolutely essential that high standards of welding are attained and that proper facilities for training, certification and testing are made available.

171 **KELKAR M G:** Pattern of future agriculture education programme for higher secondary schools in India. Rajasthan Board Journal of Education 1969, 5(4), 31-7.

The objectives that could be of agriculture education in secondary schools have been given. Based on the assumption that the training needs of urban students are different from those of rural students the following programmes have been spelled out in detail: I. Programme of agriculture in urban schools; a) college preparatory course; b) work-experience in agriculture for non-agriculture students of classes VIII to X. II. Programme in rural/semi-urban schools: a) college preparatory courses; b) employment preparatory courses; c) vocational agriculture (terminal) courses for farmers' sons; d) work-experience programme in agriculture for classes VI-VIII on compulsory basis. The various employment potential in farming and allied fields have been given. It is pointed out that only schools having adequate facilities should offer agriculture stream.

172 NAYAR D P: Problems of technical education. Economic and Political Weekly 1970, 5(12), 533-9.

Problems of technical education may be studied under three broad heads: 1) preparation for technical education; 2) technical education itself and 3) the succeeding practical training. The ground for technical education has to be prepared by general education, through teaching of humanities and basic sciences as well as imparting of basic skills over which the super structure of more complicated skills can be built at a later stage. With regard to technical education proper, the problems concern the quality of students who joined technical institutions, determining how many students should be admitted at different levels and in different specialisations and preserving and improving quality in the context of the rapid expansion of technical education in recent years. Practical training is very unsatisfactorily organised, with industry taking very little interest. The nature, content and methods of industrial training should be formulated clearly. The manner of financing of technical education is very important. The major beneficiary of technical education is industry. Industry should be made to pay and take full responsibility for the products it consumes. It is worthwhile in this context to examine whether some measure on the lines of the Industrial Training Act in U K would not be beneficial to technical education in this country.

173 PERUMAL M C: Fisheries education and training in India. Indian Farming 1969, 19(9), 91-3.

The following training facilities are available in India: 1) the Government of India as well as the State governments opened a number of fishermen training centres for fisherman trainees; 2) the State fisheries departments have in-service and refresher programmes for their own personnel; 3) the polytechnics institutes in Tamil Nadu, Kerala and Andhra offer courses on fisheries technology and navigation; 4) the Indo-Norwagian Project started giving training in mechanised fishing in 1953 at Quilon; 5) the Deep-see and Offshore Fishing Stations give training in modern methods of fishing; 6) the Central Fisheries Research Institutes provide training courses for fisheries personnel of the State Governments; 7) the Marine Products Processing Training Centre at Mangalore offer training on freezing, canning, fish ham and sausage etc.; 8) the Central Institute of Fisheries Education at Bombay provides higher education in fisheries at the postgraduate level; 9) the Central Institute of Fisheries Operatives at Cochin and Madras provide various courses for candidates with a basic secondary education; Besides these various universities have started fisheries courses.

WORKERS' EDUCATION

174 SHUKLA P D: Trade Unions and adult education. Education 1969, 31(1), 5-8.

The importance of Trade Unions as the most suitable agencies for educating workers has been justified on the following considerations: 1) educational needs arising out of their participation in the Union affairs can be met only by the Union 2) the workers meet in the Unions as a homogeneous group; 3) workers' education, like adult education in general, lacks any coericive element and hence must operate in consultation with the Union leaders; 4) the workers often have little formal education and the presentation of the programme may be too superior to the workers and may result in their discontinuance; 5) using the Union as the centre of activities results in maximum efficiency in the use of educational techniques, materials and methods; 6) workers' education aims at social action which is likely to result if educational process takes place within the setting of the Union. Some of the factors impinging upon the development of adult education for workers are: 1) low-level of literacy; 2) general poverty and low level of wages; 3) predominantly migratory nature of the workers; 4) lack of dependable leadership in Trade Unions. The efforts of the State, the employers and the Trade Unions for the education of workers have been pointed out. However the initiative and willing participation of the workers have been stressed as the primary requirements for the success of the programme.

175 SUNDER S S: Philosophy of workers education. Workers Education 1970, January 12-16.

The following are the characteristics of workers education: 1) it is limited only to the adults engaged in organised production in any capacity other than managerial and voluntarily participating; 2) it excludes instruction in religion, history, science, etc. which may be part of general education and it is limited to the education of workers about their rights and responsibilities in relation to their job, trade unionism, industrial relations, labour policy and legislation and social security. The philosophy behind these characteristics of the workers education may be listed as follows: 1) an outlay on workers' education can also increase the economic productivity of those educated; 2) social and economic development can be fully successful only if the working people and their representatives are fully aware of the principles and policies governing the developments; 3) satisfactory functioning of healthy trade unionsm is essential and it can be achieved only through workers' education; 4) through the trade unions industrial workers can play their role properly in the affairs of the country.

List of Periodicals Abstracted

AICC Economic Review 1970: V 21, Nos 12, 13
Calcutta Review 1969: V 1, No 1
Christian Education 1970: V 20, No 1
Economic and Political Weekly 1970: V 5, Nos 3-7, 9, 11, 12
Education 1969: V 31, No 1
Education and Psychology Review 1970: V 10, No 1
Educational Forum 1970: V 15, No 1
Educational India 1970: V 36, Nos 7-9
Educational Review 1970: V 76, Nos 1, 3
Educational Trends 1969-70: V 4, Nos 3, 4
Geography Teacher 1970: V 5, No 2
Haryana Journal of Education 1970: V 3, No 1
Indian Chemical Engineer 1969: V 11, Nos 3, 4
Indian Educational Review 1969: V 4, No 2
Indian Farming 1969: V 19, No 9
Indian Journal of Adult Education 1969: V 31, Nos 1-3
Indian Journal of Applied Psychology 1970: V 7, No 1
Indian Journal of Experimental Psychology 1970: V 4, No 1
Indian Journal of Medical Education 1970: V 9, No 1
Indian Journal of Pharmaceutical Education 1970: V 4, No 1
Indian Journal of Psychology 1970: V 45, No 1
Interdiscipline 1969: V 6, Nos 3, 4
Journal of Education and Psychology 1970: V 27, No 4
Journal of Educational Research and Extension 1970: V 6, No 3
Journal Institution of Engineers India 1969: V 49, No 10, Pt. CH3
Journal of Nutrition and Dietetics 1969: V 6, No 4
Journal of the Post-Graduate School 1969: V 6, No 2
Kerala Journal of Education 1970: V 2, No 1
Lok Rajya 1970: V 25, No 21
Maharashtra Educational Journal 1970: V 18, Nos 5, 6
Mainstream 1970: V 8, No 24
Manas 1969: V 16, No 2
Mathematics Education 1970: V 4, No 1
NIE Newsletter 1970: V 5, No 1
NIHAE Bulletin 1969: V 2, No 4
Naya Shikshak (Teacher Today) 1969: V 12, No 2
Prachya Prabha 1969: V 41, No 11
Progress of Education 1970: V 44, No 8
Quest in Education 1970: V 7, No 1
Radio Times of India 1970: V 25, No 1
Rajasthan Board Journal of Education 1969: V 5, No 4
Regional College Record 1969-70: Dec. Jan.
School Science 1969: V 7, No 3
Social Action 1970: V 20, No 1
Social Studies Teacher 1970: V 6, No 4
Social Welfare 1970: V 16, Nos 10, 11
Teaching 1970: V 42, No 3
University News 1970: V 8, No 3
Vyayam 1970: Feb.
Workers Education 1970: Jan.
Yojana 1970: V 14, Nos 1-2

Newspapers:

Amrita Bazar Patrika: 26 Jan. 1970
Economic Times: 20 Mar. 1970
Hindu: 14 Jan; 18 Feb; 15, 24 Mar. 1970
Mail: 13 Feb. 1970
Statesman: 18, 26 Mar. 1970
Times of India: 30, 31 Jan; 30 Mar. 1970

SPECIAL SECTION

WASTAGE AND STAGNATION

A1 ALL INDIA COUNCIL FOR SECONDARY EDUCATION: Causes of failures in examinations (In India. Ministry of Education. Reconstruction of secondary education. Delhi, Manager of Publications, 1967. 59).

After a prolonged discussion on the causes of failures, the Council in its meeting in 1957 approved the following recommendations: 1) State Governments should take early steps to remedy the situations arising from lack of accommodation, inadequate equipment and unqualified and untrained teachers; 2) State Boards of Secondary Education should adopt proper means so as not to lay emphasis on the mastery of the subject matter as on the educational growth of the child; curriculum committees should be set up for constant evaluation of the syllabi; 3) the State Boards of Education should try to implement the recommendations made by the Seminar on Examinations held in Bhopal and the Conference on Reforms of Examination held in New Delhi; the suggestion that in each subject, examinations may be conducted at two levels - an ordinary and an advanced level - may also be examined; 4) the State Governments should consider whether the jurisdiction of the Boards of Secondary Education could be suitably limited so as to improve efficiency.

A2 BOSE A K: Wastage in secondary education. Educational Review 1969, 75(3), 60-4; 75(11), 259-62; 1970, 76(1), 18-20; 76(2), 41-5.

The extent of wastage from standard VIII onwards and the causes have been studied. Thirty four schools were selected for the study. The following are the findings: 1) of the pupils enrolled in standard VIII, only 21.2% passed the higher secondary examination (HSE) after four years; this means a wastage of 78.8% at the high school stage; 2) maximum wastage is seen in standards VIII and IX and in backward communities; 3) that the weakness of students in the earlier classes was not identified and that appropriate remedial steps were not taken, have been the reasons for many failures; 4) wastage is found to be higher in schools situated in lower class localities than in others; 5) wastage is found to be greater in the case of girls than in the case of boys; 6) although a student who has failed in the HSE is designated as wastage, the education he has received upto this level is of great value to him in his later life.

A3 CHICKERMANE, D V: Study of wastage in primary education in India. Education Quarterly 1968, 20(3), 14, 15, 17.

The concept and types of wastage, the importance and the various methods of its study have been briefly discussed. The study covers 518 children in schools in 13 villages in Maharashtra. These children enrolled in these schools during 1954-56 were followed for a period of 4 years after their enrolment. Separate weightage was given to each standard completed. The wastage due to stagnation and due to drop out has been separately studied. The study revealed that 1) total wastage in primary education is 68%; 2) of the total wastage 40% is due to stagnation; 3) while wastage due to drop out is great in the beginning and slowly decreases in higher standards, the wastage due to stagnation is fairly high throughout. That stagnation constitutes a very large portion of wastage is evident from this study. This problem can be combated only by improved methods of teaching, evaluation of school work and better school administration. Since the drop out is maximum in the first standard, preventive measures should be concentrated at this stage.

A4 CHICKERMANE D V: Study of wastage in single-teacher schools. Education Quarterly 1968, 20(3), 22-3.

Wastage and stagnation has been studied in the first four grades. Ten single-teacher schools in Gurgoti area (Maharashtra) were taken for the study. Data were collected for every child admitted in grade I in the years 1960-64, (5 batches) and each batch was followed for four consecutive years. The mean percentage of wastage was found to be 75 and that of stagnation, over 50. Indifference of parents, consequent irregular attendance of children in school, poor school programmes and lack of competency on the part of teachers have been attributed as reasons for wastage and stagnation. The following suggestions have been given: 1) improvement of teaching techniques of single-teacher schools and initiation of teachers in these; 2) introduction of ungraded pattern for the first four grades; 3) provision of equipment to schools and amenities to teachers.

A5 CHOPRA S L: Socio-economic background and failure in the high school examination. Educational and Psychological Measurement 1966, 26(2), 495-7.

An attempt has been made to find out how far the failure of students was related to socio-economic background and whether the differences in percentages of failures in different socio-economic groups could be accounted for by variations in levels of measured intelligence. The test of Progressive Matrices was administered to 1359 high school students in Lucknow district. Data for parental occupation and results in the high school examination were also collected. There was a gradual rise in the percentage of failures as one moved from the higher to the lower occupational groups. To find out if the failures in the lower occupational groups were due to lower intellectual level of students, six groups of 81 students each from the six occupational groups were matched in intelligence test scores. The results showed that socio-economic background is positively related to success in the high school examination and that even when measured intelligence is held constant, the richer the socio-economic background the less is the probability of failure.

A6 **CHOUDHURY P:** Report of an investigation into the problem of wastage and stagnation in primary schools in the district of 24-Parganas. Education Quarterly 1968, 20(3), 24.

The focus of the study was on the length of time taken by a pupil in completing the first four grades of dropping out midway. Out of a total of 4300 pupils entering grade I in 1961, 1425 left school before completing grade IV. The wastage was 33.1%. Of 2875 pupils who remained in school, 1694 did not complete grade IV in 4 years and repeated one or more classes. Stagnation was calculated as 39.4%. To allow for incremental gains to pupils who repeat a class, certain credits were assigned for the periods spent in same class and on this basis, the efficiency of the primary schools of the district was calculated as 51.3%. Various factors found, through opinion survey, to be associated with wastage and stagnation are: 1) poverty - 33%; 2) parental indifference - 26%; 3) social habits and customs - 6.8%; 4) irregularity of attendance - 15.8%; 5) admission of underaged children - 4.8%; 6) large size of grade I - 2.5%, 7) ineffective teaching method and curriculum - 4%; 8) other causes - 7.1%.

A7 **DESHMUKH A G, KAMAT A R:** Wastage and stagnation in college education (In National Council of Educational Research and Training. Educational studies and investigations. Vol. 1. Delhi, the Council 1962. 33-80).

This study, divided into three parts, deals with the problem of estimating the wastage and stagnation in college education. Part I describes the results of investigations undertaken for this purpose based on a three-year entry of students to a Poona College, and it builds up estimate of the wastage among Arts students.

The wastage figure for the college is found to be approximately 45 per cent and that for the Poona University is estimated to be 51 per cent approximately. (The results are then further analysed by several relevant factors, e.g. the S.S.C. examination marks, age at entry, sex, caste and others. Part II deals with wastage among Science students, basing the enquiry on the same investigations carried out for Arts students. It is estimated that the wastage figure for the college is 38 per cent and that for the Poona University is 48 per cent approximately. Analysis is also done by several relevant factors such as the S.S.C. examination marks, age at entry, sex, caste etc. These results are compared with those obtained for Arts students. Part III deals with stagnation (or the delay in progress) in College education among Arts and Science students on the basis of the same enquiry. It gives figures for the extent of stagnation among Arts and Science students at different stages. An attempt is made to relate the delay in progress to various relevant factors like the S.S.C. examination marks, age at entry, sex and schools, local or non-local. In the end the authors discuss the planning and requirements of a good enquiry into the twin problems of wastage and stagnation.

A8 Dismal record /Editorial/. Times of India Bombay 3 October 1969, p.10, Cols. 1-2. 600 words.

At present out of every 100 children who enter class I, only about half the number complete class IV and only 35 go up to class VII. In some areas the percentage of drop out at class I is 60. One of the major reasons for the wastage is economic. But more than 10 million children drop out every year because the schools are too far away from their homes. This is the reason for poor enrolment of girls in rural areas. Setting up of new schools, appointment of more women teachers and the provision of hostel facilities for them near the schools and the supply of free text books and lunch packets for poor children are some of the measures to tackle the problem. The management of primary schools run by Panchayats should be improved.

A9 GADGIL D R, DANDEKAR V M: Primary education in Satara District, report of two investigations. Poona, Gokhale Institute of Politics and Economics, 1955. 174p.

The two reports are: 1) investigation into the problem of lapse into illiteracy and 2) investigation into wastage and stagnation in primary education, both in Satara District of Maharashtra. With regard to the first investigation, the sample consisted of ex-pupils of selected schools who were administered a reading-writing test to determine whether they retained literacy. The study revealed that it was necessary for a pupil to complete a 4-year course in order to ensure the retention of literacy. A majority of those who retained literacy found no use for the skills attained in schools. The following suggestions have been made: 1) compulsion to complete a four-year course in school; 2) continuation work in the period immediately after a pupil leaves school; 3) activity aiming at stimulation and maintenance of reading and writing, etc. habits among adult expupils. With regard to the second investigation, 1778 cases of wastage and 1264 cases of stagnation were studied. The wastage and stagnation had been found to be associated with: 1) the number of years spent in school; 2) age; 3) caste; 4) income; 5) occupation; 6) size of agricultural holding; 7) possession of live stocks; 8) relation with the head of the family; 9) school factors.

A10 **GOGOI D:** Investigation into the extent and causes of wastage and stagnation in primary education in the plain Districts of Assam (In Summaries of reports submitted by the students for the Degree of Master of Education 1963-64 (CIE Studies in Education and Psychology, No. 57). Delhi, Central Institute of Education 1966, 31-9).

A sample of 916 children admitted in class I in 84 schools in various districts were followed for five years till the batch completed the primary course. While 387 were detained in different classes, 279 left school before completing the course. Thus stagnation amounted to 42.2% and wastage 30.7%. The causes of wastage and stagnation have been enumerated. The following remedial measures have been suggested: 1) mid-day meal at school; 2) supply of textbooks, clothes etc. to the needy; 3) formation of parent-teacher associations; 4) part-time education; 5) social education and other propaganda programmes in rural areas; 6) improvement in material condition of schools; 7) properly trained teachers; 8) health services; 9) improvement of single-teacher schools; 10) frequent supervision and guidance; 11) check on bogus attendance; 12) revision of curriculum and examination system; 13) separate educational facilities for mentally and physically handi-capped children.

A11 **INDIA. CENTRAL ADVISORY BOARD OF EDUCATION:** Causes of failures in examinations. (In INDIA. MINISTRY OF EDUCATION. Reconstruction of secondary education. Delhi, Manager of Publications, 1967. 59-60).

The Board in its meeting in 1963 resolved that 1) the authorities concerned should accelerate their efforts for eliminating the wastage due to failures in examinations through speedy improvements in the teaching and learning processes, the creation of conditions for harder and more concentrated work, and the better utilization of school programmes and amenities; 2) the examining bodies should introduce as quickly as possible the various measures for reforming the examination system recommended by the Ministry of Education; 3) the appropriate authorities should take immediate steps for reorganizing the school examination system in order to reduce wastage without lowering the standards; 4) a meeting of the Chairmen and Secretaries of school examination Boards, should be convened to examine the problems involved, formulate concrete measures for action and discharge on a continuing basis the general responsiblities for implementing the above mentioned reforms.

A12 **INSTITUTE OF APPLIED MANPOWER RESEARCH, DELHI: Development of modern medical education in India and student wastage in medical colleges. Delhi, the Institute, 1967. viii, 73p. 22 ref.**

The present organization of medical education, research and service is largely based on the recommendations of two Health Survey and Development Committees, one in 1946 and the other in 1961. In all there were 89 medical colleges by 1965. By the end of the third Plan the admission strength rose to 10,520 of whom 24% were women students. The teacher-student ratio in 1963 was 1:8. The out-turn of medical graduates by the end of the third Plan was 5387 of whom 1356 were women. The rate of student wastage is 6%, 6.4% for men and 5.3% for women. 47% of students qualify within the minimum prescribed time of 5 years. An additional 41% qualify in 6 years and a further 6% in 7 years. 43% of the men students qualify in the minimum prescribed time, an additional 42.7% in 6 years and a further 7.9% in 7 years. 55% of the women students qualify within 5 years, an additional 36% in 6 years and a further 3.7% in 7 years. Over-all time wastage is 11%, 12% for men and 9% for women.

A13 **IYER R R: Wastage in primary education. Education Quarterly 1968, 20(3), 35-46.**

Data regarding enrolment of pupils in classes I to V, collected State-wise and published in "Education in India, Vol. 11, All-India Tables," have been analysed for the years, 1950-51 to 1963-64, to calculate wastage rate. Gross total wastage (classes I - V) per 100 pupils enrolled in class 1 has been studied. The wastage in various States by sex and standardwise have been presented in 15 Tables.

A14 MEHTA R R: X-raying cost aspect of primary educational wastage. Journal of the Gujarat Research Society 1969, 31(2), 145-54.

A questionnaire study was conducted among 52 primary schools of Botad Taluka in both urban and rural areas in order to identify the extent of wastage and stagnation. The social cost of education for standards I, IV and VII have been worked out for urban and rural students separately. It is observed that the rate of wastage is closely correlated with the social cost. The aim of the Government, it is suggested, should be to bring up the social cost of education of rural student to the level of that of the urban student. The study has revealed that there is about 30% wastage at standard I, 13% at standard IV and 10% at standard VII. Poor socio-economic condition of parents, students' weakness in studies, frustration among teachers have been identified as some of the reasons.

A15 NAGAPPA S: Wastage in the educational system. Education Quarterly 1968, 20(3), 16-17.

Opening of new schools, especially for girls, provision of mid-day meals, uniforms, books and stationery and transport facilities would help in reducing wastage. To increase the holding power of schools, it should be ensured that they are well-located, well-housed with all facilities and are having better trained teachers. This means consolidation of already existing educational facilities rather than expansion of facilities. Provision of adult education also needs emphasis. Diversification of courses and vocationalisation will help solve the problem at the secondary stage. Besides all these, there is need for a code of ethics for teachers to be strictly followed.

A16 Problem of school drop-outs /_Editorial_/. Educational India 1970, 36(8), 287-8.

The high rate of drop-out after lower primary stage in Andhra Pradesh has been deplored. Besides involving huge wastage of capital resources on education, the problem also results in serious social consequences like juvenile delinquency. Hence, establishment of more pre-vocational training centres to rehabilitate all such drop-outs who are semi-literate and greater participation of State Governments in this programme have been suggested.

A17 **RAWAT D S**: Beginning reading. Education Quarterly 1968, 20(3), 47-51.

That a poor reader is a poor achiever and that he is likely to repeat grades which might end in droping out has been pointed out. The reading ability developed by the child depends on several factors such as age, sex, intelligence, health, emotional stability and home background. The mental, physical and emotional make-up of all children who begin reading are not the same The teacher should adopt various measures, including the use of 'reading readiness test', to evaluate the individual child's equipment to start reading. On the basis of this evaluation, the teacher should group children who need similar kind of instruction. The teacher should also pay individual attention.

A18 **RAWAT D S**: Draft blue print of action plan to reduce wastage and stagnation in the primary and middle schools of India. Education Quarterly 1968, 20(3), 27-34.

A review of various studies has been made. A list of the various causes of wastage and stagnation has been given so as to base the action plan on these causes. Some general considerations for the action programme are: 1) the Fifth Five Year Plan should allocate funds for the Central and State programmes for reduction of wastage; 2) individual school should plan and execute programmes in this regard; 3) a concerted national drive should be undertaken to mobilise all resources for this purpose; 4) since all causative factors are interrelated, an integrated comprehensive programme should be launched; 5) due emphasis should be given to prevent stagnation in the first two grades; 6) proper machinery should be created to implement the programmes at the levels of Centre, State and the Block; 7) school improvement programmes are very important in this regard; 8) a continuous programme of data collection should be launched; 9) interdisciplinary research programmes should be undertaken to reduce wastage. Separate action programmes have been suggested for the school, the State Departments of Education and the Centre.

A19 Report of the National Seminar on Wastage and Stagnation at the Primary Stage. Education Quarterly 1968, 20(3), 52-7.

The solution to the problem of wastage and stagnation depends on 1) vitalising the present educational system which is largely weak and ineffective; 2) relating the educational system to the life and needs of the masses who are now entering the schools; 3) utilizing all facilities available in individual institutions as well as in the educational set up and creating a climate of hard sustained and dedicated work. While the first aspect is a longterm project requiring considerable expenditure, immediate steps could be and should be taken with regard to the second and third aspects. The seminar has accordingly, suggested an action research programme consisting of various measures. The recommendations of the seminar have been given.

A20 SAPRA C L: Suggested programme to reduce wastage and stagnation at the first level of education. Education Quarterly 1968, 20(3), 25-6, 57.

It is observed that about 65% of the wastage is due to socio-economic factors and 30% due to educational factors. A design of pilot programme for reduction of wastage at the primary stage is given, which if found effective may be adopted on a wider scale. The programme consists of the following measures: 1) improved teaching method; 2) improved evaluation (ungraded pattern in the first two classes); 3) improved curriculum; 4) quality textbooks; 5) free/subsidised textbooks, stationery, school uniform etc. to the needy children; 6) health services; 7) mid-day meals; 8) improved administrative and supervisory practices; 9) improved school - community relations; 10) guidance and counselling; 11) adjustment of school hours and vacation to suit the economic needs of local community; 12) part-time education. It is suggested that the pilot programme may be initiated in about 60 primary and 60 middle schools, selected from a few Community Development Blocks. The methodology and procedure of adopting these measures in the selected schools have been described.

A21 SAPRA C L: Wastage and stagnation in elementary schools. (In Mathur V S. Crucial problems in Indian education. Delhi, Arya Book Depot, 1970, 200-18).

The definitions of wastage and stagnation are critically examined and the methods of measuring the phenomena have been given. The rates of wastage and stagnation calculated for classes I through VIII for the years 1950-57 reveal that: 1) the combined rate of wastage and stagnation is 78.35%; 2) the rate is highest in class I and decreases as pupils move to higher classes; 3) the rate is higher among girls. The causes of wastage are a) poverty of parents; b) stagnation in the same class; c) absence of schooling facilities; d) poor school environment; e) faulty admission policy; f) death of a parent; g) heterogeneity in the age composition of pupils; h) poor health of children i) irregular attendance. The following remedial measures have been suggested: 1) encouraging the parents to admit their children who have attained school-going age; 2) closing admissions to the first class after the first few months of the academic year; 3) introducing ungraded unit for the first two classes; 4) employing play-way techniques of teaching; 5) giving financial assistance to children to meet educational expenses; 6) adjusting school hours and school vacations to meet the economic needs of the community; 7) giving remedial coaching for weak students; 8) improving school community relations; 9) appointing school mothers and women teachers in rural areas to promote girls' education. It is observed that the best strategy to reduce wastage and stagnation is to lay down time-bound targets for each school and the faculty of the school sparing no efforts to achieve those targets.

A22 SHARMA R C, SAPRA C L: Wastage and stagnation in primary and middle schools in India. Delhi, National Council of Educational Research and Training, 1969, xvi, 166p. 23 ref.

The study has been conducted on 790 dropouts and 485 stayins selected from 92 sampled schools in various States. The study lays emphasis on causes and the causes have been mainly identified by comparing dropouts and stayins on certain variables which cover the entire gamut of personal, social and environmental relationships. The study has revealed that the total wastage and stagnation is 65.3% by the time the children reach grade V and 78.35% by the time they reach grade VIII and that those pupils tend to dropout 1) whose attendance in school is less than 60%; 2) whose parents view the educational performance of their children as poor; 3) who are not motivated at home for studying; 4) who are academically backward, and 5) whose interest in education is low. Apart from these factors, caste and higher than average age of admission in class I also seem to be related with the incidence of dropout. Appropriate remedial measures have been suggested.

A23 States' report on wastage and stagnation. Education Quarterly 1968, 20(3), 1-13.

The extent of wastage and stagnation at the primary school level have been reported by the following States: 1) Andhra Pradesh; 2) Gujarat; 3) Kerala; 4) Mysore; 5) Orissa; 6) West Bengal; 7) Goa, Daman and Diu; 8) Tripura. It ranges roughly between 45% to 75%. The reasons for the wastage and stagnation have been discussed. Among the remedial measures proposed to be undertaken, the following are some: 1) introduction of new technique of teaching; 2) revision of curricula; 3) training of teachers and appointment of more men and women teachers; 4) supply of books and slates to poor children; 5) supply of mid-day meals; 6) adoption of school impprovement plans with the help of the community; 7) changing the school hours and vacations to suit the occupational needs of the community.

A24 **TALESRA H:** Śikṣā meṁ apavyay va avarodhan (= Wastage and stagnation in education). [Hindi]. Educational Trends 1969, 4(3), 36-41.

Students' ignorance about social environment, carelessness of parents; lack of age limit and time-limit for admission; irregular appointment of teachers; absence of educational interest among aparents, regular and effective supervision, special arrangement for mentally and physically handicapped children, parent-teacher co-operation and mid-day meals are the factors responsible for wastage and stagnation in education. Remedies suggested by the Fourth National Conference on Compulsory Primary Education and the Education Commission (1964-66) have been cited.

A25 **VEDA PRAKASHA :** Stagnation and wastage. (In Indian Yearbook of Education 1964, Second Yearbook - Elementary Education, Delhi; National Council of Educational Research and Training, 1964. 132-54).

The concepts of wastage, stagnation and lapse into illiteracy have been examined and the main findings of the research carried out so far to measure their extent or to ascertain their causes have been summed up. It is argued that restriction of expansion to reduce wastage is an untenable approach to the problem. The following programmes to reduce wastage have been suggested: 1) improvement in the general economic condition of the people; until such time when the economic condition improves, the only alternative is to provide a system of part-time education, particularly to children of age-groups of 9-14, so that they would be able to work in or for their families and also receive education; 2) emphasis on adult or social education; 3) the attracting and holding power of the schools increased through provision of better teachers. It is pointed out that since wastage is highest in class I, the efforts should be concentrated at this point. The causes of wastage in class I have been enumerated, which in themselves suggest remedial measures.

A26 Wastage in agricultural education [Editorial]: Education and Psychology Review 1969, 9(3), 109-11.

A study of high school leavers in agriculture during 1961-68 revealed that 1) of the total leavers, only 14.3% joined higher education, 81.5% entered into vocations and 4.2% were without jobs; 2) only 2.9% joined higher agricultural institutions and 11.4% took other disciplines for study; 3) only 14.3% of the leavers took up agricultural service and those who took up farming constituted only 10%; 4) 12.9% entered into vocations that had no bearing on agriculture. That agriculture could claim only 27.2% of the high school leavers with agriculture education shows the wastage of educational efforts. Not getting admission in agricultural colleges, inability to cope up with the course and inability to bear the cost of education have been the reasons for students to join other higher education courses. Similar are the causes for those who joined non-agricultural professions. Need for proper planning and coordination among the agricultural schools and colleges, adequate guidance and counselling and provision of scholarships have been emphasised.

A27 Wastage in secondary education (In National Council of Educational Research and Training. Educational Studies and Investigations. Vol. I. Delhi, the Council, 1962. 95-113).

The extent of wastage and stagnation between standards VIII and XI has been studied. The sample consisted of 2564 pupils from 34 secondary schools from various districts of Maharashtra. The findings of the investigation are: 1) the total wastage including stagnation in this stage was 78.8%; 2) maximum wastage occured in standards VIII and IX; 3) the dropout or failures belonged to poor socio-economic status and were of higher age than the average; 4) the students who failed in the SSC had been showing consistent weakness in English and Mathematics in earlier standards as well; if suitable remedial action had been planned earlier, these failures could have been averted; 5) wastage was more in low class localities and among girls; 6) out of the pupils who passed SSC from middle class localities, 92.6% went for higher education whereas the corresponding figure for pupils from low class localities was 17.8%; 7) though a student who failed in the SSC examination had been designated as a case of wastage, the amount of education he had so far received had been of utility in his later life.